Haier

SYJS-0308

Home MRV

Service Manual

2003.08

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NOTE:THE PARTS MARKED WITH* ARE ADDED INFORMATION**

1 DESCRIPTION OF PRODUCTS & FEATURES

1. Nomenclature

- Indoor unit:

Model of indoor unit

A	S	09	2	F	M	A	H	A
1	2	34	5	6	7	8	9	10

1 Product symbol (A stands for air conditioner)
2 Product mode (S stands for split type air conditioner)
3 , 4 Product specification (09 stands for cooling/heating capacity is 9000BTU/h)
5 Applicable voltage (2 stands for 220-240V/50Hz)
6 Product series (F stands for free combination)
7 Appearance character (M stands for 28 large arc normal air inlet grille 1232084 back frame)
8 Product type (A stands for heat pump type, refrigerant is R22)
9 Design number (H stands for inverter heat pump air conditioner)
10 Climate type (A stands for T1 climate)

Model of indoor unit

A	P	18	2	F	A	A	H	A
1	2	3 4	5	6	7	8	9	10

1 Product symbol (A stands for air conditioner)
2 Product mode (P stands for packaged type air conditioner)
3 , 4 Product specification (18 stands for cooling/heating capacity is 18,000BTU)
5 Applicable voltage (2 stands for 220-240V/50Hz)
6 Product series (F stands for free combination)
7 Appearance character (A stands for appearance of inverter packaged type air conditioner)
8 Product type (A stands for heat pump type, refrigerant is R22)
9 Design number (H stands for inverter heat pump air conditioner)
10 Climate type (A stands for T1 climate)

- Outdoor unit:

Model of outdoor unit

A	U	42	2	F	I	A	H	A
1	2	3 4	5	6	7	8	9	10

1 Product symbol (A stands for air conditioner)
2 Product mode (U stands for split type air conditioner outdoor unit)
3 , 4 Product specification (42 stands for cooling/heating capacity is 42,000BTU)
5 Applicable voltage (2 stands for 220-240V/50Hz)
6 Product series (F stands for free combination)
7 Appearance character (I stands for 5HP outdoor unit)
8 Product type (A stands for heat pump type, refrigerant is R22)
9 Design number (H stands for inverter heat pump air conditioner)
10 Climate type (A stands for T1 climate)

2. Combination of indoor and outdoor

Equivalent power of outdoor unit	5HP				
Model of outdoor unit	AU422FIAHA	AU422FIAIA	AU422FIBIA		
Total amount of indoor units can be connected with	6 sets	4 sets	3 sets	3 sets	4 sets
Types of indoor units can be connected with	See Table Indoor units				
Capacity range of indoor units connected with each system of A,B	50%-130% of each system's capacity				

Equivalent power of outdoor unit	3HP				
Model of outdoor unit	AU242FHAHA AU242FHBHA				
Total amount of indoor units can be connected with	3 sets	3 sets	3 sets	1 sets	2 sets
Types of indoor units can be connected with	See next page table Indoor units				
Capacity of indoor units can be connected with	9000~27000BTU/h				

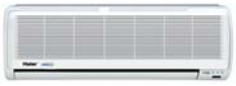
3. Models of indoor and outdoor units

Outdoor units

Appearance	Model	Refrigerant	Capacity (BTU/h)		Connect capacity (HP)		Max. indoor units can be connected
			Cooling	Heating	Min	Max	
(5HP)	AU422FIAHA	R22	41000	48000	Single system		6
	AU422FIAIA	R22			1.0	3.0	
	AU422FIBIA	R407C			Two systems		
					2.0	6.0	
(3HP)	AU242FHAHA	R22	24000	29000	1.0	3.0	3
	AU242FHBHA	R407C					
***	AU482FIAHA□	R22□	48000□	56000□	1.0	6.0	8
	AU48NFIAHA□	R22□	48000□	56000□			

indoor units

type	appearance	model	refrigerant	capacity(BTU/h)	
				cooling	heating
Four way cassette		AB092FCAHA	R22	10000	12000
		AB142FCAHA	R22	14000	17000
		AB092FCBHA	R407C	9000	11000
		AB142FCBHA	R407C	14000	16000
		AB182FCAHA	R22	18000	21000
		AB182FCBHA	R407C	18000	21000
Convertible		AC142FCBHA	R407C	14000	16000
		AC182FCBHA	R407C	18000	21000
		AC182FCAHA	R22	18000	21000
Ceiling concealed		AE072FCAKA	R22	7000	9000
		AE092FCAHA	R22	9000	11000
		AE092FCBHA	R407C	9000	11000
		AE182FCAHA	R22	18000	21000
		AE182FCBHA	R407C	18000	21000
		AE242FCAKA	R22	24000	28000
		AE092FCAKA	R22	9000	11000
		AE122FCAKA	R22	12000	14000
		AE142FCAKA	R22	14000	16000
		AE182FCAKA	R22	18000	21000
		AE212FCAKA	R22	21000	24000
Ceiling concealed(TES indoor)		AE112FCBIA	R407C	11000	13600
		AE182FCBIA	R407C	18000	20500

Cabinet		AP182FAAHA	R22	18000	21000
		AP182FABHA	R407C	18000	21000
Console		AF092FCBHA	R407C	9000	13000
		AF122FCBHA	R407C	12000	17000
Wall-mounted		AS062FMAHA	R22	6000	8000
		AS072FMAHA	R22	7000	9000
		AS092FMAHA	R22	10000	13000
		AS092FMBHA	R407C	10000	13000
		AS122FMAHA	R22	12000	14000
		AS122FBBHA	R407C	12000	14000
		AS182FTAHA	R22	18000	21000
		AS182FTBHA	R407C	18000	21000

4. Character of Products

1) The length of horizontal refrigerant pipe can reach 70m,the total pipe length can reach 100m, the height difference between indoors unit and outdoor unit can reach 30m, the height difference between indoor units can reach 10m.
2) 1000m super far distance communication between indoor and outdoor units, convenient control and easy to enlarge the scale of units assembly.
3) Indoor unit can be controlled separately.
4) Equipped with computer-checking interface, conveniently for service work.

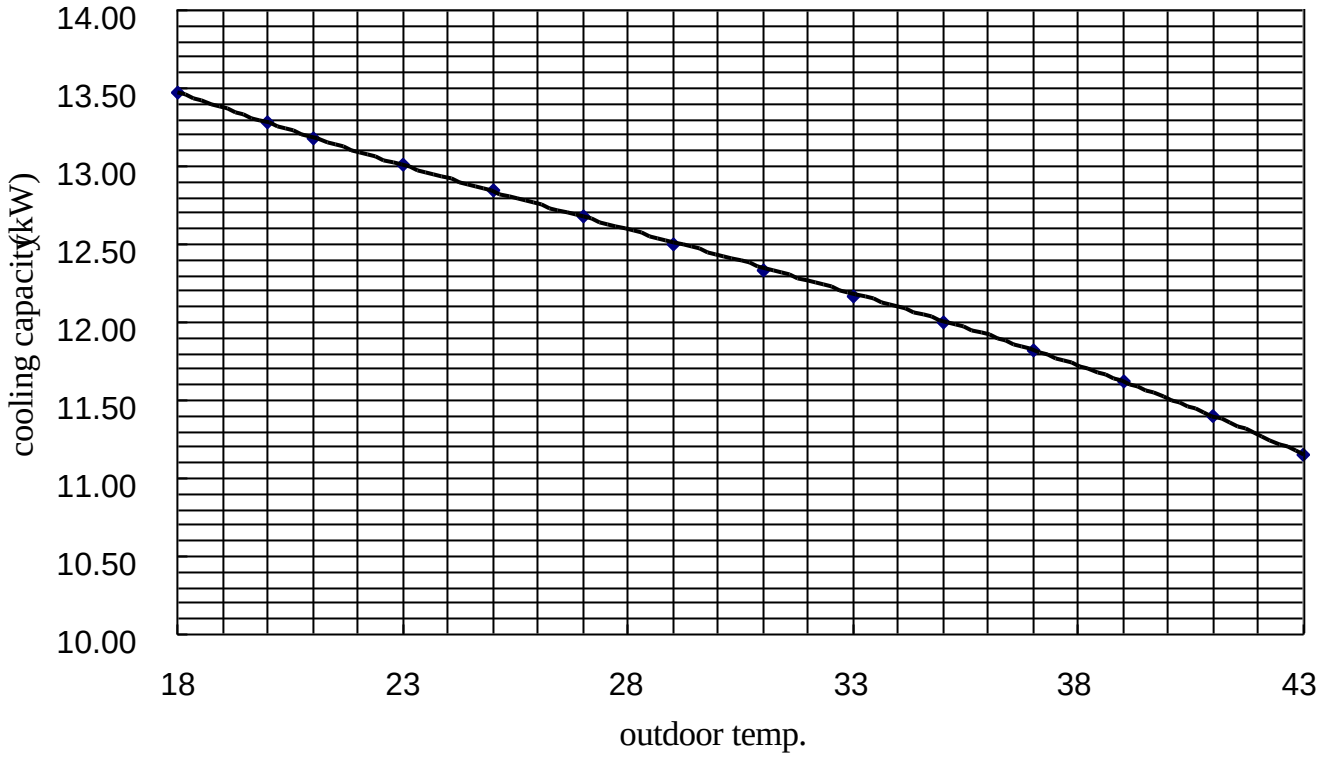
5) Far distance sending of refrigerant, and distribute refrigerant intelligently and reasonably according to the needs of each room, high efficient and energy saving.
6) Display of automatic test of trouble.
7) Healthy negative ion generation function can refresh the air and excite the oxygen,it is optional.
8) **The ceiling concealed models move the indoor electronic expansion valve out to MP3 (electronic expansion valve box), completely avoid the flow sound of EEV, extremely lower noise, and realize super-silence running in deed.**
9) **The ceiling concealed models (except AE07\AE24) all have return air box, it will be set back return air when out of factory. When installation, bottom plate 2 can be removed and installed on the back, consequently, return air mode has been transferred to down return air.**
10) **In order to remain the best running state of indoor unit, control the refrigerant flow by MP3 (MP2), so as to realize energy saving for every unit and the most comfortable operation.**
11) The units except for convertible model are all wired controller and remote controller models.If you want a wired control unit or a remote control unit, please inform us ahead of schedule.

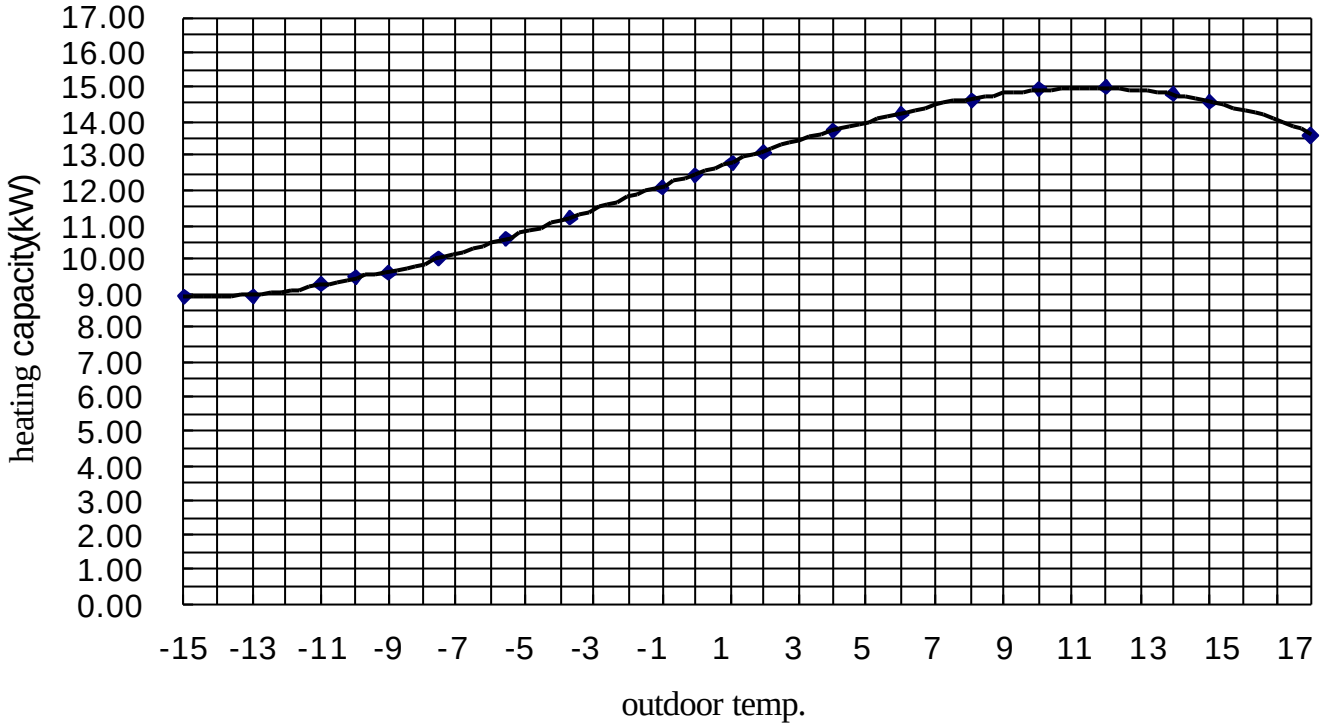
The unit with remote controller is matched with receive display.

The unit with wired controller equipped with wired controller, can make remote operation on wired controller with remote controller such as YR-H39, but the remote controller is additionally purchased.

5. Cooling and heating capacity curves

(AU422FIAHA / AU422FIAIA / AU422FIBIA)





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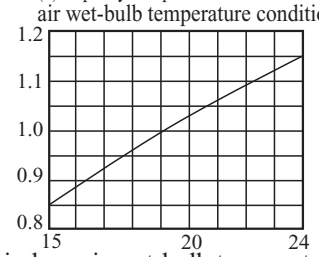
AU48- Characteristics of refrigerating and heating capacity

1) Calculation method

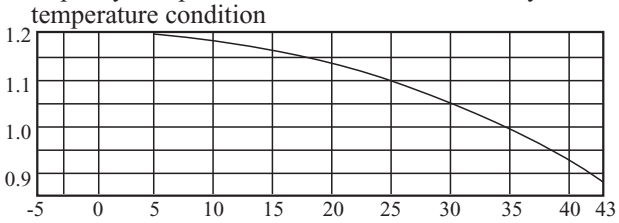
Calculation method of refrigerating capacity-Refrigerating capacity to be known = Refrigerating capacity x (1) x (2) x (3) x (4) x (5) W

(1) Capacity compensation value of indoor air wet-bulb temperature condition



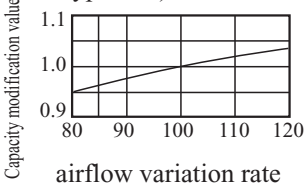
indoor air wet-bulb temperature(*)

Capacity compensation value of outdoor air dry-bulb temperature condition



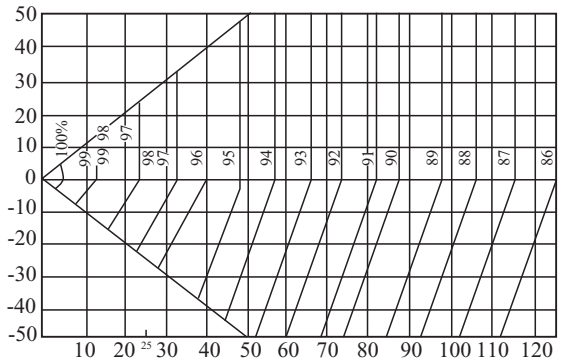
outdoor air dry-bulb temperature(*)

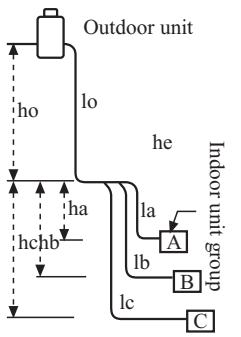
(3) Capacity modification value under airflow variation rate of indoor unit group (only for airflow type unit)



airflow variation rate

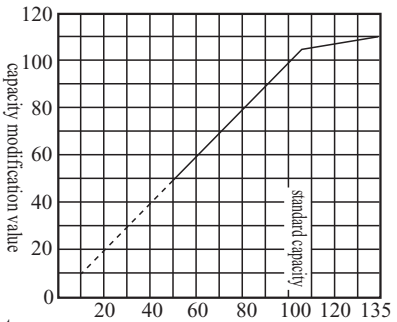
(4) Fall of refrigerant pipe of indoor and outdoor unit, capacity compensation value of pipe length





L(m) Length of refrigerant pipe (corresponding length) L (m)

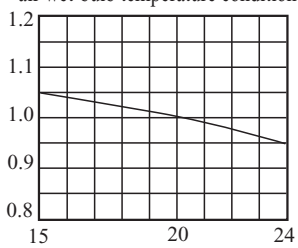
(5) Capacity compensation suitable for total capability of indoor unit group (cooling)



Total capacity of indoor unit group

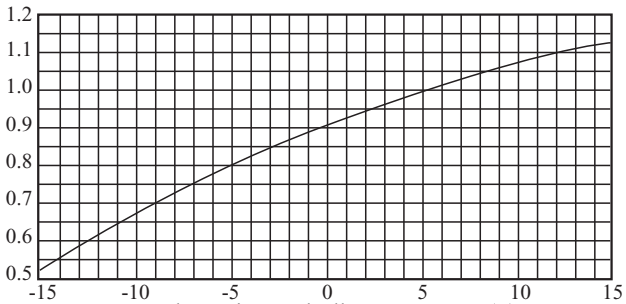
2) Calculation method of heating capacity—Heating capacity to be known = Heating capacity ((1) x (2) x (3) x (4) x (5) x (6)) W

(1) Capacity modification under indoor air wet-bulb temperature condition



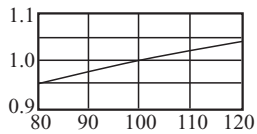
indoor air dry-bulb temperature(*)

(2) Capacity modification under outdoor air wet-bulb temperature condition

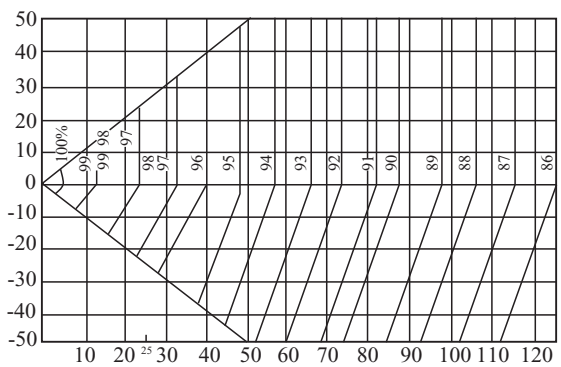


outdoor air wet-bulb temperature(*)

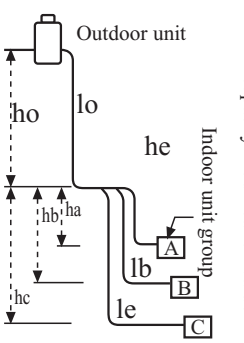
(3) Capacity modification value under airflow variation rate of indoor unit group



(4) Fall of refrigerant pipe of indoor and outdoor unit, capacity compensation value of pipe length

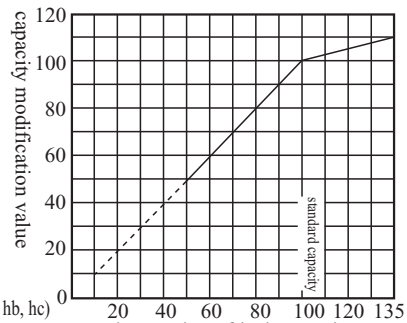


Length of refrigerant pipe (corresponding length) L (m)



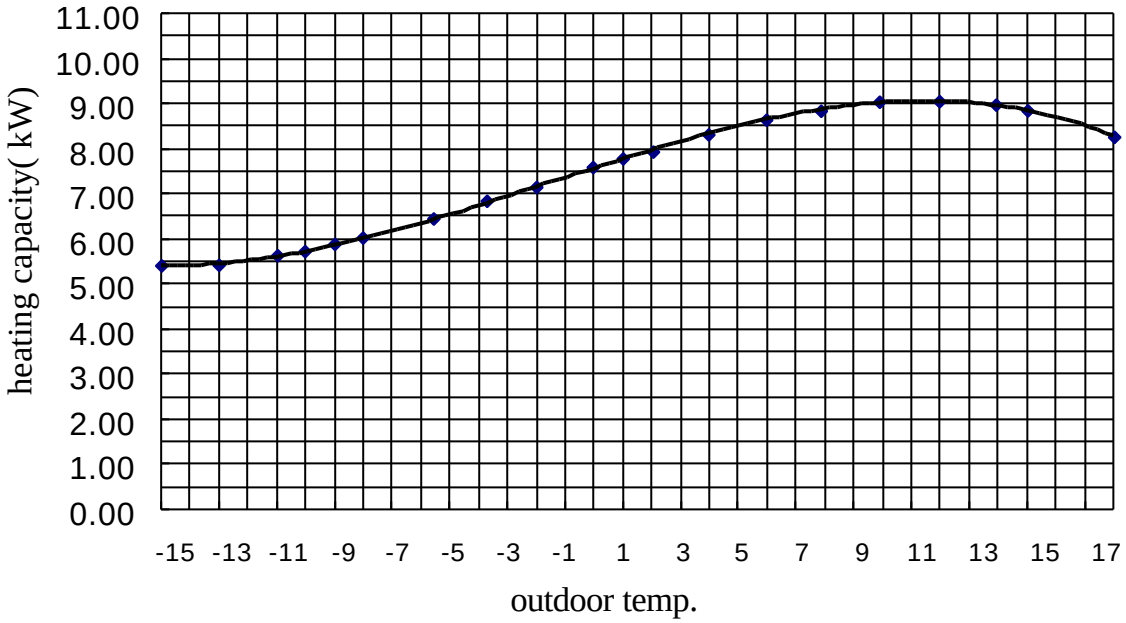
H=ho+(the max. value of ha, hb, hc)
L=lo+(the max. value of la, lb, lc)

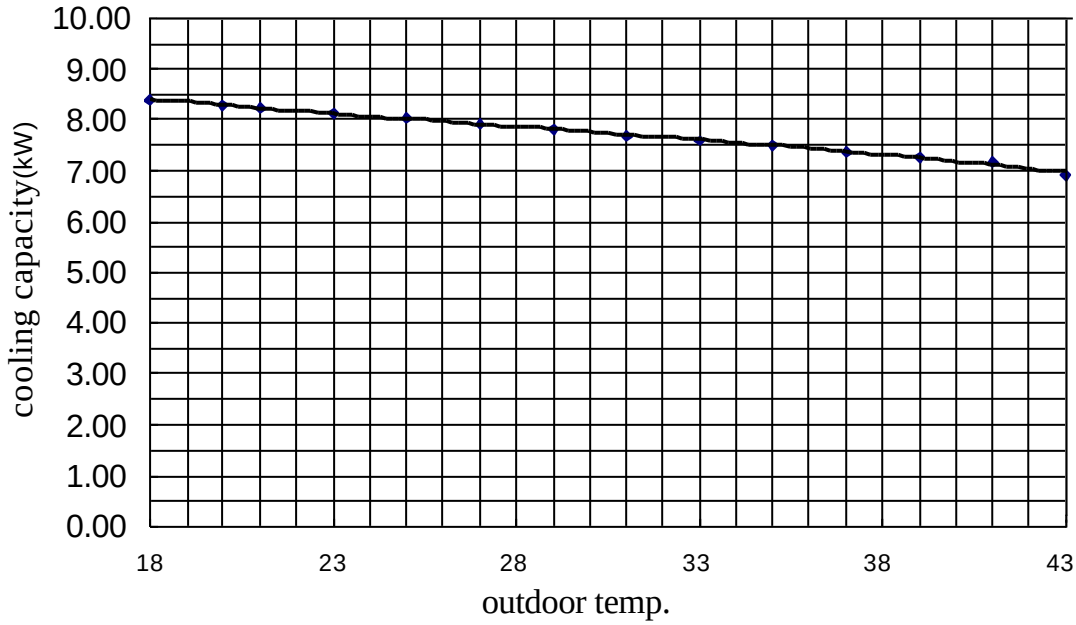
(5) Capacity compensation suitable for total capability of indoor unit group (heating)



Total capacity of indoor unit group

(AU242FHAHA / AU242FHBHA)





2 SPECIFICATIONS

1). 5HP outdoor unit (R22)

Item / Model			AU422FIAHA	AU422FIAIA
Cooling capacity		Btu/h	41000	41000
Heating capacity		Btu/h	48000	48000
Power source			*1PH 220-230V 50Hz	*1PH 220-230V 50Hz **(×2)**
Working frequency scope			30~120Hz	30~120Hz
Running data	Cooling power	W	5000(7100max)	5000(7100max)
	Running current	A	24(36max)	24(36max)
	Heating power	W	5000(7100max)	5000(7100max)
	Running current	A	24(36max)	24(36max)
	Noise level	dB(A)	59/-/ 1m long	59/-/-1m
Dimension L×W×H	External	mm	1250×1035×340	1250×1035×340
	Package	mm	1375×1050×440	1375×1050×440
Weight	Net/Gross	Kg	91/111	91/111
Compressor	Model		HV341A2-S12L	HV341A2-S12L
	Starting method		Direct start	Direct start
Heat exchanger			Combination of wave cranny radiation fin and copper pipe	
Refrigerant control method			Capillary + electronic expansion valve (PMV)	
Refrigerant	Type		R22	R22
	Charge	g	1600×2	1600×2
Defrost method			Reverse cycle	Reverse cycle
Fan	Type×Number		Screw fan x 2	Screw fan x 2
Fan motor	Power output	W	60×2	60×2
	Starting method		Soft inverter	Soft inverter
Air-flow		m3/h	6480	6480
Anti-vibration and sound insulation devices			Rubber bracket (compressor use)	Rubber bracket (compressor use)
Control mode (remote/wired)			Indoor unit side	Indoor unit side
Indoor temperature control			Electronic thermosta	Electronic thermosta
Safety devices			Compressor internal equipped protector /Fan motor internal equipped thermostat /Compressor internal equipped reductor	
Piping	Liquid	mm	9.52	9.52
	Gas	mm	15.88	15.88
	*Piping length	m	50(max)	50(max)
	*Drop between I.U. and O.U.	m	30(max)	30(max)
	*Drop between I.U. and I.U.	m	10(max)	10(max)
	Connecting method		Flared	Flared
Accessories			Parts need in installation, controller	

* The AU422FIAHA has one power source terminal block.

* The AU422FIAIA has two power source terminal blocks. The power source can be 2×(220V, 1ph, 50Hz), or it can be two phases of (380V, 3N, 50Hz).

* The indoor unit (I.U.) and the outdoor unit (O.U.) are in the same system.

* The two indoor units (I.U.) are in the same system.

2). 5HP outdoor unit (R407C)

Item / Model			AU422FIBIA
Cooling capacity		Btu/h	41000
Heating capacity		Btu/h	48000
Power source			*1PH 220-230V 50Hz (×2)
Working frequency scope			30~120Hz
Running data	Cooling power	W	5200(7100max)
	Running current	A	27(36max)
	Heating power	W	5100(7100max)
	Running current	A	26(36max)
	Noise level	dB(A)	59/-/-
Dimension L×W×H	External	mm	1250×1035×340
	Package	mm	1375×1050×440
Weight	Net/Gross	Kg	91/111
Compressor	Model		BG240X2CS-20KU
	Starting method		Direct start
Heat exchanger			Combination of wave cranny radiation fin and copper pipe
Refrigerant control method			Capillary + electronic expansion valve(PMV)
Refrigerant	Type		R407C
	Charge	g	2000×2
Defrost method			Reverse cycle
Fan	Type×Number		Screw fan x 2
Fan motor	Power output	W	60×2
	Starting method		Soft inverter
Air-flow		m3/h	6480
Anti-vibration and sound insulation devices			Rubber bracket (compressor use)
Control mode (remote/wired)			Indoor unit side
Indoor temperature control			Electronic thermosta
Safety devices			Compressor internal equipped protector /Fan motor internal equipped thermostat /Compressor internal equipped reductor
Piping	Liquid	mm	9.52
	Gas	mm	15.88
	*Piping length	m	50(max)
	*Drop between I.U. and O.U.	m	30(max)
	*Drop between I.U. and I.U.	m	10(max)
	Connecting method		Flared
Accessories			Parts need in installation, controller

* The AU422FIBIA has two power source terminal blocks. The power source can be 2×(220V, 1ph, 50Hz), or it can be two phases of (380V, 3N, 50Hz).

* The indoor unit (I.U.) and the outdoor unit (O.U.) are in the same system.

* The two indoor units (I.U.) are in the same system.

3). 3HP outdoor unit (R22 & R407C)

Item \ Model			AU242FHAHA	AU242FHBHA
Cooling capacity		Btu/h	24000	24000
Heating capacity		Btu/h	28000	27000
Power source			1PH 220-230V 50Hz	1PH 220-230V 50Hz
Working frequency scope			30~120Hz	30~120Hz
Running data	Cooling power	W	3100(3700max)	3200(3800max)
	Running current	A	15.5(18max)	18(21max)
	Heating power	W	3100(3700max)	3100(3800max)
	Running current	A	15.5(18max)	17(21max)
	Noise level	dB(A)	58/-/-	58/-/-
Dimension L×W×H	External	mm	948×340×830	948×340×830
	Package	mm	1075×445×965	1075×445×965
Weight	Net/Gross	Kg	74/89	74/89
Compressor	Model		THV247FBE	C-7RB267H03AA
	Starting method		Direct start	Direct start
Heat exchanger			Combination of wave cranny radiation fin and copper pipe	
Refrigerant control method			Capillary + electronic expansion valve	
Refrigerant	Type		R22	R407C
	Charge	g	2200	3200
Defrost method			Microcomputer temperature difference type anti-icing reverse cycle mode defrosting	
Fan	Type×Number		Screw fan×1	Screw fan×1
Fan motor	Power output	W	60	60
	Starting method		Soft inverter	Soft inverter
Air-flow		m3/h	3240	3240
Anti-vibration and sound insulation devices			Rubber bracket (compressor uses)	Rubber bracket (compressor uses)
Control mode (remote/wired)			Indoor unit side	Indoor unit side
Indoor temperature control			Electronic thermosta	Electronic thermosta
Safety devices			Compressor internal equipped protector Fan motor internal equipped thermostat Compressor internal equipped reductor valve	
Piping	Liquid	mm	9.52	9.52
	Gas	mm	15.88	15.88
	Piping length	m	50m(max)	50m(max)
	Drop between I.U. and O.U.	m	30m(max)	30m(max)
	Drop between I.U. and I.U.	m	10m(max)	10m(max)
	Connecting method		Flared	Flared
Accessories			Parts need in installation, controller	

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Item				model	AU482FIAHA	
Function					Cooling	Heating
Capacity				BTU/h	48000	56000
Total power input				W	6000	6000
Max. power input				W	7200W	7000W
Dehumidifying capacity				10 - ³×m³/h	/	
Power source				N，V，Hz	1N 220V 50HZ	
Running current(max. runnin current)				A / A	cooling： 10/13 heating： 10/12	
Indoor unit	Unit model (color)				/	
	Fan	Type × Number			/	
		Speed(H-M-L)		r/min	/	
		Fan motor output power		kW	/	
		Air-flow(H-M-L)		m³/h	/	
	Heat exchanger	Type / Diameter		mm	/	
		Total Area		m²	/	
		Temp. scope		℃	/	
	Dimension	External	（L×W×H）	mm×mm×mm	/	
		Package	（L×W×H）	mm×mm×mm	/	
	Drainage pipe (material , I.D./O.D.)			mm	/	
	Control type (Remote /wired)				/	
	Fresh air hole dimension			mm	/	
	Electricity Heater			kW	/	
	Noise level (H-M-L)			dB(A)	/	
	Weight (Net / Shipping)			kg / kg	/	
Panel	Dimension	External	（L×W×H）	mm×mm×mm	/	
		Package	（L×W×H）	mm×mm×mm	/	
	Weight (Net / Shipping)			kg / kg	/	
Outdoor unit	Unit model (color)				WHITE	
	Compressor	Model / Manufacture			EHV46FAL1/MITSUBISHI	
		Type			scroll	
	Fan	Type × Number			Axial-flowX2	
		Speed		r/min	840	
		Fan motor output power		kW		
		Air-flow(H-M-L)		m³/h	6500	
	Heat exchanger	Type / Diameter		mm	/	
		Total area		m²	/	
		Temp. scope		℃	/	
	Dimension	External	（L×W×H）	mm×mm×mm	1250×1035×340	
		Package	（L×W×H）	mm×mm×mm	1375×1050×440	
	Drainage pipe (material , I.D./O.D.)			mm	/	
	Refrigerant control method			mm/mm	capillary +electrionic expansion valve	
	Defrosting				Auto	
	Volume of Accumulator			L	/	
	Noise level			dB(A)	60/-/-	
	Type of Four way valve				/	
	material of reduce noise				Rubber bracket	
	crankcase heater power			W	/	
	Weight (Net / Shipping)			kg / kg	125/145	
PIPING	Refrigerant	Type / Charge		g	R22 6500	
		Recharge quantity		g/m	/	
	Pipe	Liquid		mm	9.52	
		Gas		mm	19.05	
	Connecting Method				flared	
	Between I.D &O	MAX.Drop		m	30	
		MAX.Piping length		m	50	

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Item				model	AU48NFIAHA	
Function					Cooling	Heating
Capacity				BTU/h	48000	56000
Total power input				W	6000	6000
Max. power input				W	7200W	7000W
Dehumidifying capacity				10 - ³×m³/h	/	
Power source				N，V，Hz	3N 380V 50HZ	
Running current(max. runnin current)				A / A	cooling ： 10/13 heating ： 10/12	
Indoor unit	Unit model (color)				/	
	Fan	Type × Number			/	
		Speed(H-M-L)		r/min	/	
		Fan motor output power		kW	/	
		Air-flow(H-M-L)		m³/h	/	
	Heat exchanger	Type / Diameter		mm	/	
		Total Area		m²	/	
		Temp. scope		℃	/	
	Dimension	External	（L×W×H）	mm×mm×mm	/	
		Package	（L×W×H）	mm×mm×mm	/	
	Drainage pipe (material , I.D./O.D.)			mm	/	
	Control type (Remote /wired)				/	
	Fresh air hole dimension			mm	/	
	Electricity Heater			kW	/	
	Noise level (H-M-L)			dB(A)	/	
	Weight (Net / Shipping)			kg / kg	/	
Panel	Dimension	External	（L×W×H）	mm×mm×mm	/	
		Package	（L×W×H）	mm×mm×mm	/	
	Weight (Net / Shipping)			kg / kg	/	
Outdoor unit	Unit model (color)				WHITE	
	Compressor	Model / Manufacture			JT100BHVYE/DAIKI	
		Type			scroll	
	Fan	Type × Number			Axial-flowX2	
		Speed		r/min	840	
		Fan motor output power		kW		
		Air-flow(H-M-L)		m³/h	6500	
	Heat exchanger	Type / Diameter		mm	/	
		Total area		m²	/	
		Temp. scope		℃	/	
	Dimension	External	（L×W×H）	mm×mm×mm	1250×1035×340	
		Package	（L×W×H）	mm×mm×mm	1375×1050×440	
	Drainage pipe (material , I.D./O.D.)			mm	/	
	Refrigerant control method			mm/mm	capillary +electrionic expansion valve	
	Defrosting				Auto	
	Volume of Accumulator			L	/	
	Noise level			dB(A)	60/-/-	
	Type of Four way valve				/	
	material of reduce noise				Rubber bracket(compressor use)	
	crankcase heater power			W	/	
	Weight (Net / Shipping)			kg / kg	125/145	
PIPING	Refrigerant	Type / Charge		g	R22 6500	
		Recharge quantity		g/m	/	
	Pipe	Liquid		mm	9.52	
		Gas		mm	19.05	
	Connecting Method				flared	
	Between I.D &O	MAX.Drop		m	30	
		MAX.Piping length		m	50	

4). Cassette type indoor unit

Item \ Model			AB092FCBHA	AB142FCBHA
Cooling capacity		Btu/h	9000	14000
Heating capacity		Btu/h	12000	16000
Power source			1PH 220-230V 50Hz	1PH 220-230V 50Hz
Noise level（H/M/L）		dB(A)	41/39/35	41/39/35
Dehumidifying capacity		L/h	1.6	2.1
Refrigerant			R407C	R407C
Dimension L×W×H	External	mm	570×570×276	570×570×276
	Package	mm	715×715×361	715×715×361
Weight Unit/Panel	Net	Kg/Kg	25/4.2	26/4.2
	Gross	Kg/Kg	27/6.3	28/6.3
Heat exchanger			Combination of wave cranny radiation fin and copper pipe	
Refrigerant control method			Capillary + Electronic expansion valve	
Fan	Type×Number		Cross flow fan x 1	Cross flow fan x 1
Fan motor	Power output	W	15×1	15×1
	Starting method		Relay control	Relay control
Air-flow		m3/h	700	700
Piping	Liquid	mm	6.35	6.35
	Gas	mm	9.52	12.7
	Connecting method		Flared	Flared
Suited area		m^2	13~19	17~27
Controller type			wireless remote control	wireless remote control

Item \ Model			AB182FCAHA	AB182FCBHA
Cooling capacity		Btu/h	18000	18000
Heating capacity		Btu/h	21000	20000
Power source			1PH 220-230V 50Hz	1PH 220-230V 50Hz
Noise level（H/M/L）		dB(A)	43/42/39	41/39/35
Dehumidifying capacity		L/h	2.1	2.1
Refrigerant			R22	R407C
Dimension L×W×H	External	mm	750×750×320	570×570×276
	Package	mm	900×900×460	715×715×361
Weight Unit/Panel	Net	Kg/Kg	29/3.5	26/4.2
	Gross	Kg/Kg	39/5.8	28/6.3
Heat exchanger			Combination of wave cranny radiation fin and copper pipe	
Refrigerant control method			Capillary + Electronic expansion valve	
Fan	Type×Number		Cross flow fan x 1	Cross flow fan x 1
Fan motor	Power output	W	20×1	20×1
	Starting method		Relay control	Relay control
Air-flow		m3/h	1000	700
Piping	Liquid	mm	9.52	9.52
	Gas	mm	15.88	15.88
	Connecting method		Flared	Flared
Suited area		m^2	22~33	25~35
Controller type			wireless remote control	wireless remote control

Item / model			AE072FCAKA	AE092FCAKA
Cooling capacity		Btu / h	7000	9000
Heating capacity		Btu / h	9000	11000
Cooling capacity		W	1800	2500
Heating capacity		W	2400	3000
Dehumidifying capacity		10 - ³×m³/h	1.2	1.6
Power source		N，V，Hz	1PH 220V-230V 50HZ	1PH 220V-230V 50HZ
Refrigerant			R22	R22
Noise level(H/M/L)		dB(A)	36/-/-	36/-/-
Fan	Type × Number		centrifugal fan×2	centrifugal fan×2
	Air-flow(H-M-L)	m³/h	420	520
	starting mothod		Relay control	Relay control
Heat exchanger			Combination of wave cranny radiation fin and copper pipe	Combination of wave cranny radiation fin and copper pipe
Refrigerant control method			Capillary + Electronic expansion valve	Capillary + Electronic expansion valve
Dimension （L×W×H）	External	mm×mm×mm	663×440×225	650×450×225
Weight(unit/panel)	Net	kg / kg	11.6	18
Piping Liquid		mm	6.35	6.35
Piping Gas		mm	9.52	9.52
Piping Connection method			flared	flared
Suited area		m2	8~16	11~21
Controller type			wired controller or remote controller	wired controller or remote controller

Item / model			AE122FCAKA	AE182FCAKA
Cooling capacity		Btu / h	12000	18000
Heating capacity		Btu / h	14000	21000
Cooling capacity		W	3200	5000
Heating capacity		W	4000	6000
Dehumidifying capacity		10 - ³×m³/h	1.8	2.4
Power source		N，V，Hz	1PH 220V-230V 50HZ	1PH 220V-230V 50HZ
Refrigerant			R22	R22
Noise level(H/M/L)		dB(A)	38/38/40	40/42/44
Fan	Type × Number		centrifugal fan×2	centrifugal fan×2
	Air-flow(H-M-L)	m³/h	650	1000
	starting mothod		Relay control	Relay control
Heat exchanger			Combination of wave cranny radiation fin and copper pipe	Combination of wave cranny radiation fin and copper pipe
Refrigerant control method			Capillary + Electronic expansion valve	Capillary + Electronic expansion valve
Dimension （L×W×H）	External	mm×mm×mm	804×450×225	1288×225×400
Weight(unit/panel)	Net	kg / kg	20	25
Piping Liquid		mm	6.35	9.52
Piping Gas		mm	12.7	15.88
Piping Connection method			flared	flared
Suited area		m2	12~23	23~36
Controller type			wired controller or remote controller	wired controller or remote controller

Item / model				AB092FCAHA	AB142FCAHA
Cooling capacity			Btu / h	10000	14000
Heating capacity			Btu / h	12000	17000
Cooling capacity			W	3200	4000
Heating capacity			W	4000	5000
Dehumidifying capacity			10 - ³×m³/h	1.8	1.8
Power source			N，V，Hz	1PH 220V-230V 50HZ	1PH 220V-230V 50HZ
Refrigerant				R22	R22
Noise level(H/M/L)			dB(A)	35/39/41	35/39/41
Fan		Type × Number		centrifugal fan×1	centrifugal fan×1
		Air-flow(H-M-L)	m³/h	700	700
		starting mothod		Relay control	Relay control
Heat exchanger				Combination of wave cranny radiation fin and	Combination of wave cranny radiation fin and
Refrigerant control method				Capillary + Electronic expansion valve	Capillary + Electronic expansion valve
Dimension（L×W×H）		External	mm×mm×mm	700×570×276	700×570×276
Weight(unit/panel)		Net	kg / kg	26/4.2	26/4.2
Piping	Liquid		mm	9.52	9.52
	Gas		mm	15.88	15.88
	Connection method			flared	flared
Suited area			m2	12~23	17~27
Controller type				wired controller or remote controller	wired controller or remote controller

Item / model				AE212FCAKA	AE242FCAKA
Cooling capacity			Btu / h	21000	24000
Heating capacity			Btu / h	24000	28000
Cooling capacity			W	6000	7100
Heating capacity			W	7000	8000
Dehumidifying capacity			10 - ³×m³/h	2.4	3
Power source			N，V，Hz	1PH 220V-230V 50HZ	1PH 220V-230V 50HZ
Refrigerant				R22	R22
Noise level(H/M/L)			dB(A)	40/42/44	38/42/46
Fan		Type × Number		centrifugal fan×2	centrifugal fan×3
		Air-flow(H-M-L)	m³/h	1000	900~1500
		starting mothod		Relay control	Relay control
Heat exchanger				Combination of wave cranny radiation fin and	Combination of wave cranny radiation fin and
Refrigerant control method				Capillary + Electronic expansion valve	Capillary + Electronic expansion valve
Dimension（L×W×H）		External	mm×mm×mm	1024×450×225	1380×450×225
Weight(unit/panel)		Net	kg / kg	25	42
Piping	Liquid		mm	9.52	9.52
	Gas		mm	15.88	15.88
	Connection method			flared	flared
Suited area			m2	27~41	32~49
Controller type				wired controller or remote controller	wired controller or remote controller

5). Convertible type indoor unit

Item / Model			AC142FCBHA
Cooling capacity		Btu/h	14000
Heating capacity		Btu/h	16000
Power source			1PH 220-230V 50Hz
Noise level（H/M/L）		dB(A)	48/44/38
Dehumidifying capacity		L/h	2.1
Refrigerant			R407C
Dimension L×W×H	External	mm	990×655×199
	Package	mm	1160×760×310
Weight	Net	Kg	30
	Gross	Kg	39
Heat exchanger			Combination of wave cranny radiation fin and copper pipe
Refrigerant control method			Capillary + Electronic expansion valve (PMV)
Fan	Type×Number		Centrifugal fan x 1
Fan motor	Power output	W	70×1
	Starting method		Relay control
Air-flow		m3/h	860
Piping	Liquid	mm	9.52
	Gas	mm	15.88
	Connecting method		Flared
Suited area		m^2	16~23
Controller type			wireless remote control

Item / Model			AC182FCAHA	AC182FCBHA
Cooling capacity		Btu/h	18000	18000
Heating capacity		Btu/h	21000	21000
Power source			1PH 220-230V 50Hz	1PH 220-230V 50Hz
Noise level（H/M/L）		dB(A)	48/44/38	48/44/38
Dehumidifying capacity		L/h	2.1	2.1
Refrigerant			R22	R407C
Dimension L×W×H	External	mm	990×655×199	990×655×199
	Package	mm	1160×760×310	1160×760×310
Weight	Net	Kg	30	30
	Gross	Kg	39	39
Heat exchanger			Combination of wave cranny radiation fin and copper pipe	
Refrigerant control method			Capillary + Electronic expansion valve (PMV)	
Fan	Type×Number		Centrifugal fan x 1	Centrifugal fan x 1
Fan motor	Power output	W	70×1	70×1
	Starting method		Relay control	Relay control
Air-flow		m3/h	860	860
Piping	Liquid	mm	9.52	9.52
	Gas	mm	15.88	15.88
	Connecting method		Flared	Flared
Suited area		m^2	22~33	22~33
Controller type			wireless remote control	wireless remote control

6). Med static pressure duct type indoor unit

Item \ Model			AD142FCBHA	AD182FCBHA
Cooling capacity		Btu/h	14000	18000
Heating capacity		Btu/h	16000	21000
Power source			1PH 220-230V 50Hz	1PH 220-230V 50Hz
Noise level（H/M/L）		dB(A)	43/41/38	43/41/38
Dehumidifying capacity		L/h	1.2	1.2
Refrigerant			R407C	R407C
Dimension L×W×H	External	mm	990×650×300	990×650×300
	Package	mm	1137×800×320	1137×800×320
Weight	Net	Kg	38	38
	Gross	Kg	55	55
Heat exchanger			Combination of wave cranny radiation fin and copper pipe	
Refrigerant control method			Capillary + Electronic expansion valve	
Fan	Type×Number		Centrifugal fan × 2	Centrifugal fan × 2
Fan motor	Power output	W	50×2	50×2
	Starting method		Relay control	Relay control
Air-flow		m3/h	850	780/710/630
Piping	Liquid	mm	9.52	9.52
	Gas	mm	15.88	15.88
	Connecting method		Flared	Flared
Suited area		m^2	24~38	24~38
Controller type			wired remote control	wired remote control

7). Cabinet type indoor unit

Item \ Model			AP182FAAHA	AP182FABHA
Cooling capacity		Btu/h	17000	18000
Heating capacity		Btu/h	21000	21000
Power source			1PH 220-230V 50Hz	1PH 220-230V 50Hz
Noise level（H/M/L）		dB(A)	48/45/39	48/45/39
Dehumidifying capacity		L/h	2.6	2.6
Refrigerant			R22	R407C
Dimension L×W×H	External	mm	1746×500×250	1746×500×250
	Package	mm	1862×610×405	1862×610×405
Weight	Net	Kg	36	36
	Gross	Kg	49	49
Heat exchanger			Combination of wave cranny radiation fin and copper pipe	
Refrigerant control method			Capillary + Electronic expansion valve	
Fan	Type×Number		Centrifugal fan × 1	Centrifugal fan × 1
Fan motor	Power output	W	70×1	70×1
	Starting method		Relay control	Relay control
Air-flow		m3/h	900	800
Piping	Liquid	mm	9.52	9.52
	Gas	mm	15.88	15.88
	Connecting method		Flared	Flared
Suited area		m^2	23~36	23~36
Controller type			wireless remote control	wireless remote control

8). Ceiling concealed type indoor unit

Item \ Model			AE092FCAHA	AE092FCBHA
Cooling capacity		Btu/h	9000	9000
Heating capacity		Btu/h	11000	10000
Power source			1PH 220-230V 50Hz	1PH 220-230V 50Hz
Noise level（H/M/L）		dB(A)	36/-/-	36/-/-
Dehumidifying capacity		L/h	1.06	1.06
Refrigerant			R22	R407C
Dimension L×W×H	External	mm	783×225×440	783×225×440
	Package	mm	924×521×283	924×521×283
Weight	Net	Kg	14.5	14.5
	Gross	Kg	17.7	17.7
Heat exchanger			Combination of wave cranny radiation fin and copper pipe	
Refrigerant control method			Capillary + Electronic expansion valve	
Fan	Type×Number		Centrifugal fan × 2	Centrifugal fan × 2
Fan motor	Power output	W	/	/
	Starting method		Relay control	Relay control
Air-flow		m3/h	520	520
Piping	Liquid	mm	6.35	6.35
	Gas	mm	9.52	9.52
	Connecting method		Flared	Flared
Suited area		m^2	11~21	11~21
Controller type			wired remote control	wired remote control

Item \ Model			AE182FCAHA	AE182FCBHA
Cooling capacity		Btu/h	18000	18000
Heating capacity		Btu/h	21000	21000
Power source			1PH 220-230V 50Hz	1PH 220-230V 50Hz
Noise level（H/M/L）		dB(A)	41/39/36	41/39/36
Dehumidifying capacity		L/h	2.55	2.55
Refrigerant			R22	R407C
Dimension L×W×H	External	mm	1288×225×400	1288×225×400
	Package	mm	1390×290×525	1390×290×525
Weight	Net	Kg	24	24
	Gross	Kg	27	27
Heat exchanger			Combination of wave cranny radiation fin and copper pipe	
Refrigerant control method			Capillary + Electronic expansion valve	
Fan	Type×Number		Centrifugal fan × 2	Centrifugal fan × 2
Fan motor	Power output	W	/	/
	Starting method		Relay control	Relay control
Air-flow		m3/h	1000	1000
Piping	Liquid	mm	9.52	9.52
	Gas	mm	15.88	15.88
	Connecting method		Flared	Flared
Suited area		m^2	23~36	23~36
Controller type			wired remote control	wired remote control

9). Ceiling concealed type TES indoor unit

Item / Model			AE112FCBIA	AE182FCBIA
Cooling capacity		Btu/h	11000	18000
Heating capacity		Btu/h	13600	21000
Hot water capacity		Btu/h	15400	23000
Power source			1PH 220-230V 50Hz	1PH 220-230V 50Hz
Pressure loss of hot water		Kpa	16	30
Water-flow		L/h	280	660
Inner cubage		L	0.63	1.0
Motor power		W	58	86
Noise level（H/M/L）		dB(A)	42.6/-/-	47.6/-/-
Dehumidifyng capacity		L/h	0.90	1.56
Refrigerant			R407C	R407C
Dimension L×W×H	External	mm	863×225×556	1233×225×556
	Package	mm	/	/
Weight	Net/Gross	Kg/Kg	20.8/34.2	27.9/30.9
Fan	Type×Number		Centrifugal fan × 2	Centrifugal fan × 2
Fan motor	Power output(W)	W	/	/
	Starting method		Relay control	Relay control
Air-flow		m3/h	700	1000
Piping	Liquid	mm	6.35	9.52
	Gas	mm	12.7	15.88
	Connecting method		Flared	Flared

10). Console type indoor unit

Item / Model			AF092FCBHA	AF122FCBHA
Cooling capacity		Btu/h	9000	12000
Heating capacity		Btu/h	11000	13500
Power source			1PH 220-230V 50Hz	1PH 220-230V 50Hz
Noise level（H/M/L）		dB(A)	37/34/30	37/34/30
Dehumidifying capacity		L/h	1.6	1.6
Refrigerant			R407C	R407C
Dimension L×W×H	External	mm	783×225×440	783×225×440
	Package	mm	936×298×533	936×298×533
Weight	Net	Kg	17	17
	Gross	Kg	17.7	17.7
Heat exchanger			Combination of wave cranny radiation fin and copper pipe	
Refrigerant control method			Capillary + Electronic expansion valve	
Fan	Type×Number		Cross flow fan	Cross flow fan
Fan motor	Power output	W	upper:20W, nether:11W	upper:20W, nether:11W
	Starting method		Relay control	Relay control
Air-flow		m3/h	600	600
Piping	Liquid	mm	6.35	6.35
	Gas	mm	12.7	12.7
	Connecting method		Flared	Flared
Suited area		m^2	10~20	16~26
Controller type			wireless remote control	wireless remote control

11). Wall-mounted type indoor unit

Item \ Model			AS092FMAHA	AS092FMBHA
Cooling capacity		Btu/h	11000	9000
Heating capacity		Btu/h	14000	10000
Power source			1PH 220-230V 50Hz	1PH 220-230V 50Hz
Noise level（H/M/L）		dB(A)	39/37/30	39/37/30
Dehumidifying capacity		L/h	1.6	1.6
Refrigerant			R22	R407C
Dimension L×W×H	External	mm	795×182×265	795×182×265
	Package	mm	860×335×270	860×335×270
Weight	Net	Kg	7.6	7.6
	Gross	Kg	10.6	10.6
Heat exchanger			Combination of wave cranny radiation fin and copper pipe	
Refrigerant control method			Capillary + Electronic expansion valve	
Fan	Type×Number		Cross flow fan x 1	Cross flow fan x 1
Fan motor	Power output	W	20×1	20×1
	Starting method		Controllable silicon control	Controllable silicon control
Air-flow		m3/h	500	500
Piping	Liquid	mm	6.35	6.35
	Gas	mm	12.7	12.7
	Connecting method		Flared	Flared
Suited area		m^2	11~21	11~21
Controller type			wireless remote control	wireless remote control

Item \ Model			AS182FTAHA	AS182FTBHA
Cooling capacity		Btu/h	18000	18000
Heating capacity		Btu/h	21000	21000
Power source			1PH 220-230V 50Hz	1PH 220-230V 50Hz
Noise level（H/M/L）		dB(A)	47/45/42	47/45/42
Dehumidifying capacity		L/h	2.1	2.1
Refrigerant			R22	R407C
Dimension L×W×H	External	mm	1100×330×205	1100×330×205
	Package	mm	1177×412×291	1177×412×291
Weight	Net	Kg	14	14
	Gross	Kg	17	17
Heat exchanger			Combination of wave cranny radiation fin and copper pipe	
Refrigerant control method			Capillary + Electronic expansion valve	
Fan	Type×Number		Screw fan x 2	Screw fan x 2
Fan motor	Power output	W	60×2	60×2
	Starting method		Controllable silicon control	Controllable silicon control
Air-flow		m3/h	800	800
Piping	Liquid	mm	9.52	9.52
	Gas	mm	15.88	15.88
	Connecting method		Flared	Flared
Suited area		m^2	24~38	24~38
Controller type			wireless remote control	wireless remote control

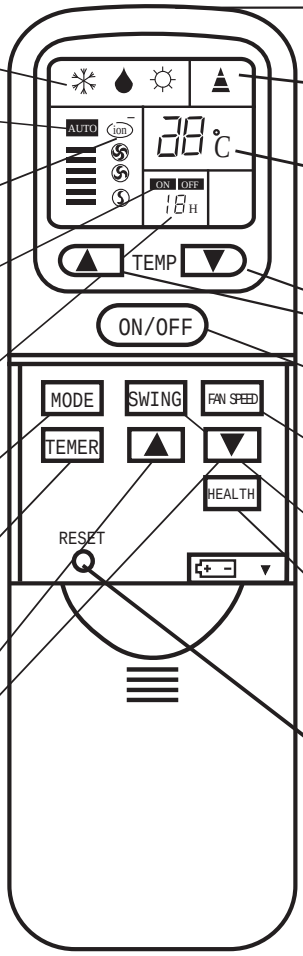
Item	model		AS072FMAHA	AS122FMAHA
Cooling capacity		Btu / h	7000	12000
Heating capacity		Btu / h	9000	14000
Cooling capacity		W	2500	4000
Heating capacity		W	3000	5000
Dehumidifying capacity		10 - ³×m³/h	1.19	2.1
Power source		N，V，Hz	1PH 220V-230V 50HZ	1PH 220V-230V 50HZ
Refrigerant			R22	R22
Noise level(H/M/L)		dB(A)	30/37/39	33/38/41
Fan	Type × Number			cross fan×1
	Air-flow(H-M-L	m³/h	420	600
	starting mothod		Relay control	Relay control
Heat exchanger			Combination of wave cranny radiation fin and	Combination of wave cranny radiation fin and copper pipe
Refrigerant control method			Capillary + Electronic expansion valve	Capillary + Electronic expansion valve
Dimension（L×W×H）	External	mm×mm×mm	795×265×182	938×265×182
Weight(unit/panel)	Net	kg / kg	7.2	11
Piping Liquid		mm	6.35	6.35
Piping Gas		mm	9.52	12.7
Piping Connection method			flared	flared
Suited area		m2	11~21	17~27
Controller type			wired controller or remote controller	wired controller or remote controller

Item	model		AE142FCAKA	AS122FBBHA
Cooling capacity		Btu / h	14000	12000
Heating capacity		Btu / h	16000	17000
Cooling capacity		W	4000	4000
Heating capacity		W	5000	5000
Dehumidifying capacity		10 - ³×m³/h	2	2.1
Power source		N，V，Hz	1PH 220V-230V 50HZ	1PH 220V-230V 50HZ
Refrigerant			R22	R407C
Noise level(H/M/L)		dB(A)	38/41/42	41/38/33
Fan	Type × Number		centrifugal fan×2	cross-flow fan×2
	Air-flow(H-M-L	m³/h	700	600
	starting mothod		Relay control	Relay control
Heat exchanger			Combination of wave cranny radiation fin and	Combination of wave cranny radiation fin and copper pipe
Refrigerant control method			Capillary + Electronic expansion valve	Capillary + Electronic expansion valve
Dimension（L×W×H）	External	mm×mm×mm	804×450×225	938*265*182
Weight(unit/panel)	Net	kg / kg	20	11
Piping Liquid		mm	6.35	6.35
Piping Gas		mm	12.7	12.7
Piping Connection method			flared	flared
Suited area		m2	17~27	17~27
Controller type			wired controller or remote controller	wired controller or remote controller

3 MECHANICAL DATA

3.1 Controllers

3.1.1 Wireless remote controller



Mode
Operation option display

Airflow volume
Airflow volume display
Speed is automatically adjusted by the air conditioner according to room and set temperatures.

Ion emission
Ion performance display

Timing mode
Timing mode display
Normal
Timer Off
Timer On

Timing period
Display of the time set for timer on or off.

Mode option
For cooling, dehumidifying or heating

Timer
For timing mode option

Time setting
Increase and decrease

Signal Transmitter
Sending signals to the indoor unit receiver

Signal icon
Flashing while the signal is sent

Temperature
Display of set temperature value

Temperature setting
For desired room temperature

On/Off
Turning the appliance on or off

Airflow volume
For desired airflow speed

Airflow direction
For airflow direction adjustment

Ion emission
For ion emission setting

Reset
Press with a pointed article to reset value if abnormal operation occurs.

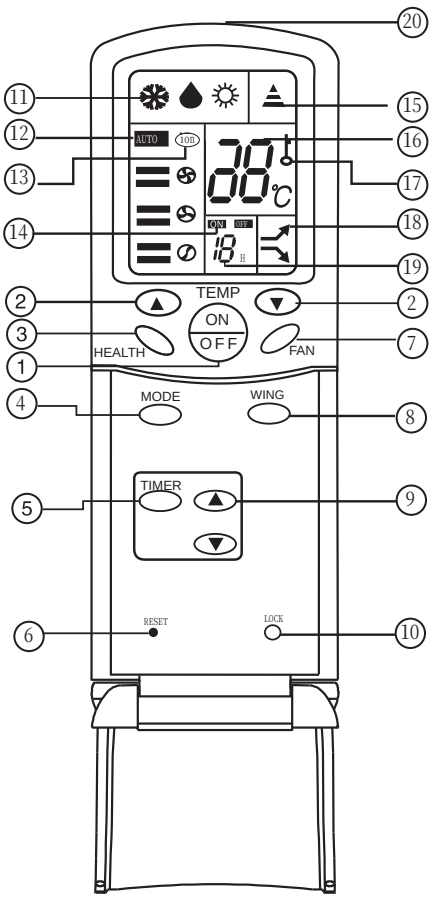
Cautions:

1.Default mode of the air conditioner will resume if the battery in the remote controller is replaced:
Mode: Cooling; Temperature: 26°C;
Timing: Normal; Airflow speed: Auto

***

Remote controller

Buttons and display of the remote controller



1.POWER ON/OFF
used for unit start and stop

2.TEMPERATURE
used to select your desired temp.

3.HEALTH
used to control the function of oxygen-making and ion-adding (when oxygen device and ion-generator are both acquirable*health button can control them, whether oxygen device is acquirable lies on the function of its outdoor.)

4.MODE
used to select cooling
d
ehumidity heating

5.TIMER
used to select:TIMER ON,TIMER OFF

6.RESET
press it with a needle to normal condition

7.FAN
used to select your desired fan speed

8.SWING
used to set fan direction

9.SET TIMER

10.LOCK
press it to lock buttons and press again to cancel lock

11.DISPLAY MODE
display the selected mode

12.DISPLAY FAN SPEED
used to display difference between indoor temp,and enacted temp.

13.HEALTH DISPLAY
used to show health state

14.TIMER DISPLAY
display the timer state:
"normal":no timer
"off":set time to shut off
"on":set time to start

15.SIGNAL
it flashes when you emit sign to indoor unit

16.TEMP. DISPLAY
display the temp. enacted.

17.LOCK DISPLAY
show that buttons have been locked

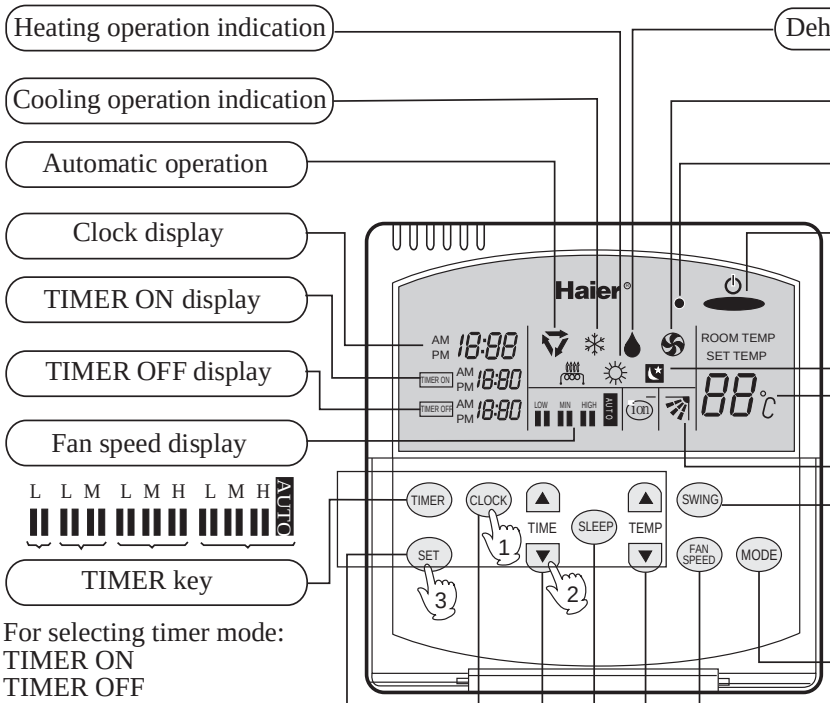
18.MIGHT/QUIET DISPLAY

19.TIME DISPLAY
display the time of "TIMER ON" and "TIMER OFF"

20.EMITTING PART
used to emit the sign to indoor receiver

NOTE: After replacing the batteries,press the "ON/OFF",remote controller will display as follows:
MODE:cooling, TEMP.:26
TIMER:normal,FAN:auto

3.1.2 Wired remote controller (old type)



Heating operation indication

Cooling operation indication

Automatic operation

Clock display

TIMER ON display

TIMER OFF display

Fan speed display

L L M L M H L M H AUTO

TIMER key

For selecting timer mode:
TIMER ON
TIMER OFF
TIMER ON/OFF

SET key

For setting the clock and time for timer operation.

CLOCK key

For checking the clock time.

HOUR step key

For adjusting the clock and time for timer operation.

Dehumidifying operation indication

Fan only operation indication

Operation indicator

Power ON/OFF key

Used to turn on /off the machine.

Sleep status indication

Temperature display

Automatic louver indication

LOU key

Used to select an automatic or fixed air supplying direction.

MODE key

Used to select operation mode:
AUTO, COOL, DRY, HEAT, FAN.

FAN SPEED key

Used to select fan speed:
LOW, MID, HI, AUTO.

TEMP step key

For setting a desired temperature value.

SLEEP key

For setting the sleep status.

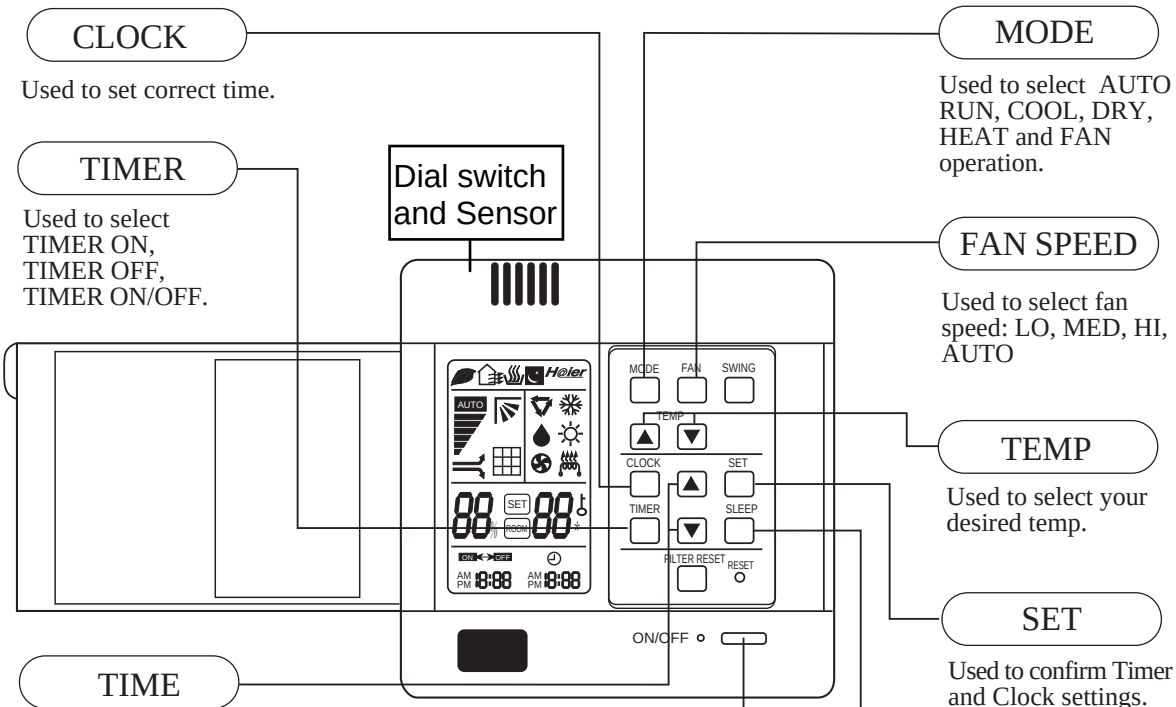
Note: This model of air conditioner doesnt provide the air sending direction adjustment function and thus the "LOU" key is disengaged while the automatic air direction indication may be displayed.
This remote controller hasn't electric-aided heating indication as well as anion generation function and indication.

Clock Set

When unit is started for the first time, clock should be adjusted as follows:

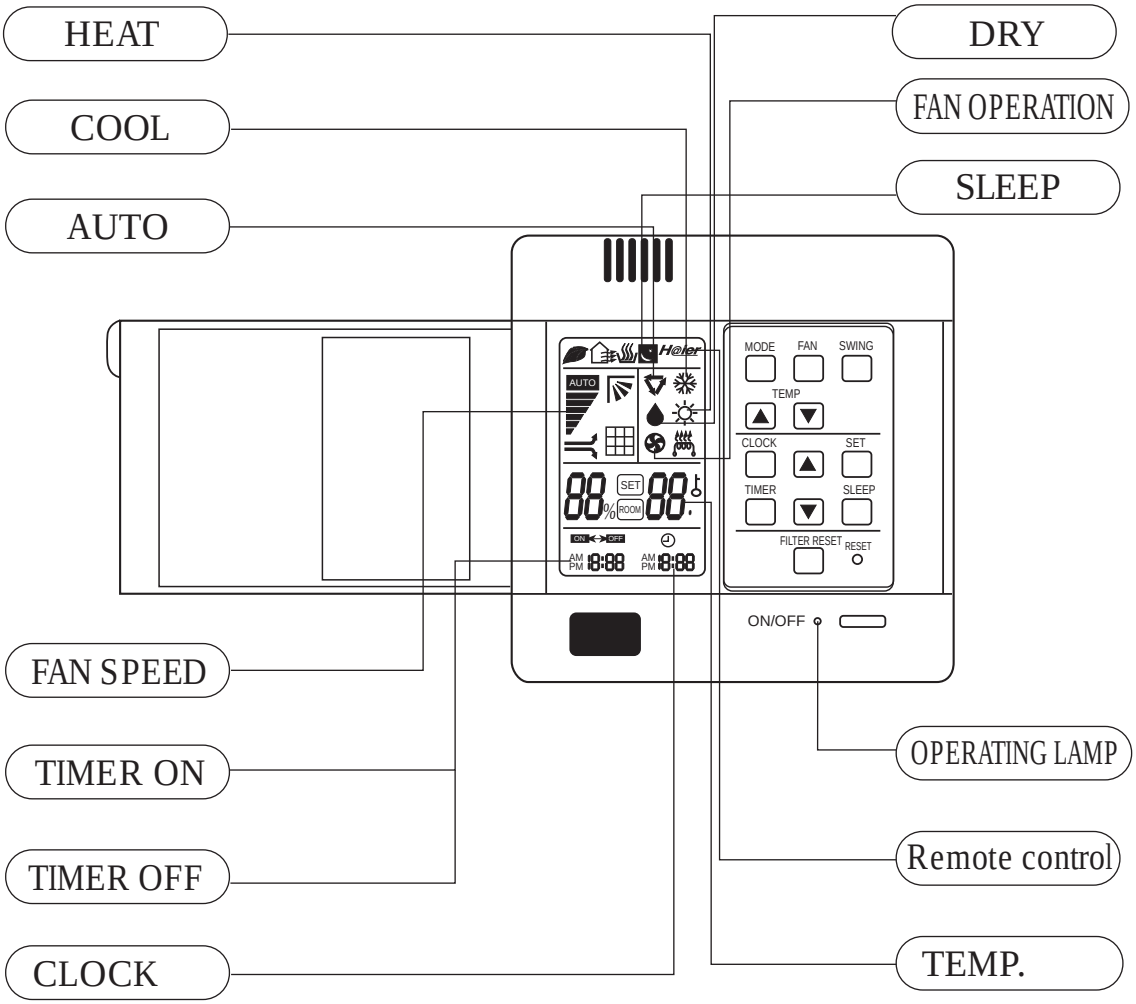
1. Press "CLOCK" key, "AM" or "PM" flashes at the clock display area.
2. Press the HOUR "▲"or "▼" key to set correct time. Each press will increase or decrease the time by 1 min. If the key is kept depressed, time will change quickly.
3. After time setting is confirmed, press "SET" key, "AM" or "PM" stop flashing, while clock starts working.

3.1.3 Wired remote controller (new type)



Note:

The above information is the explanation of the displayed information therefore varies with those displayed in actual operation.



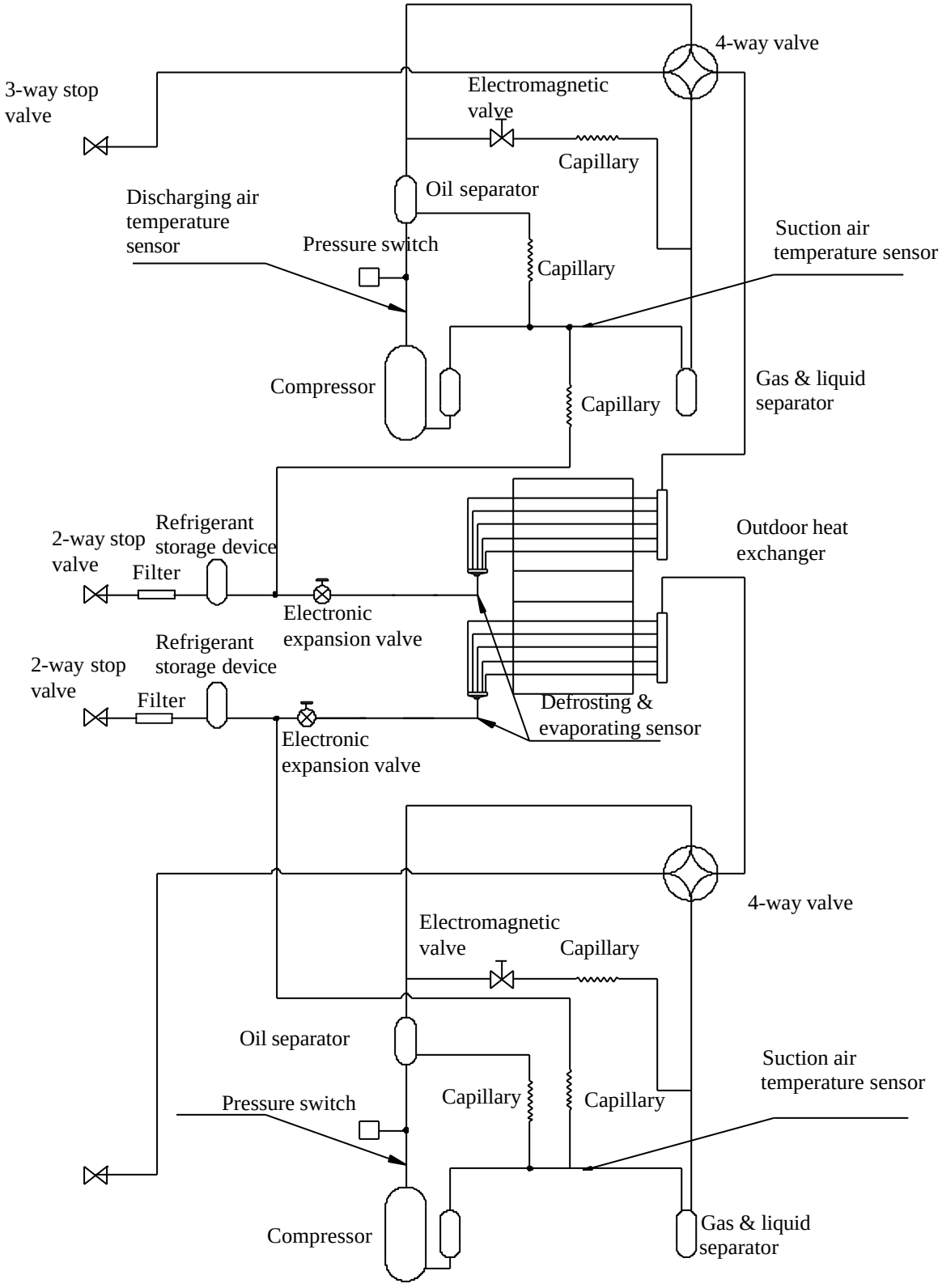
Clock set

When unit is started for the first time, clock should be adjusted as follows:

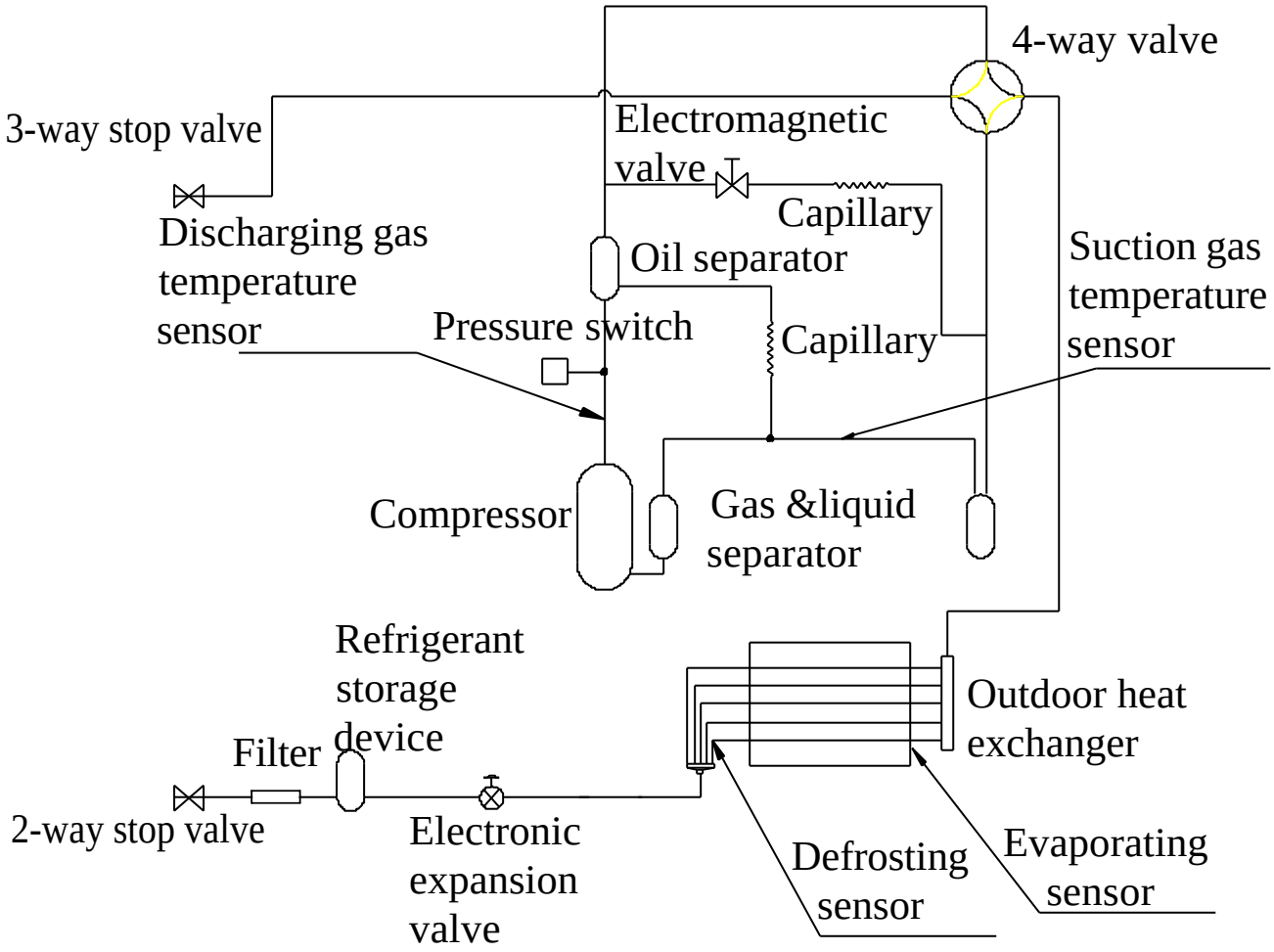
- Press CLOCK button, "AM"or "PM" flashes.
- Press ▲ or ▼ to set correct time. Each press will increase or decrease 1min. If the button is kept depressed, time will change quickly.
- After time setting is confirmed, press SET, "AM "and "PM" stop flashing, while clock starts working.

3.2 Refrigerant Diagram

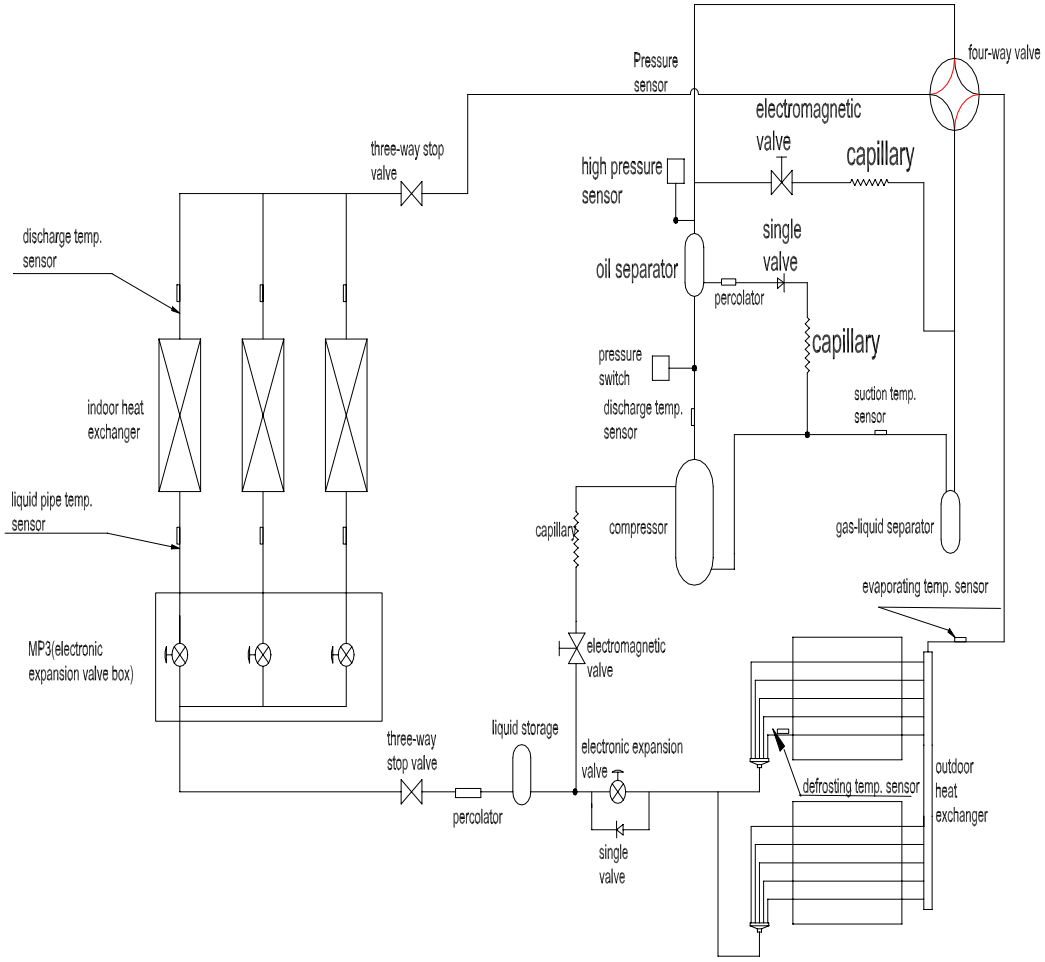
3.2.1 Model AU422FIAHA / AU422FIAIA / AU422FIBIA



Model **AU242FHAHA / AU242FHBHA**

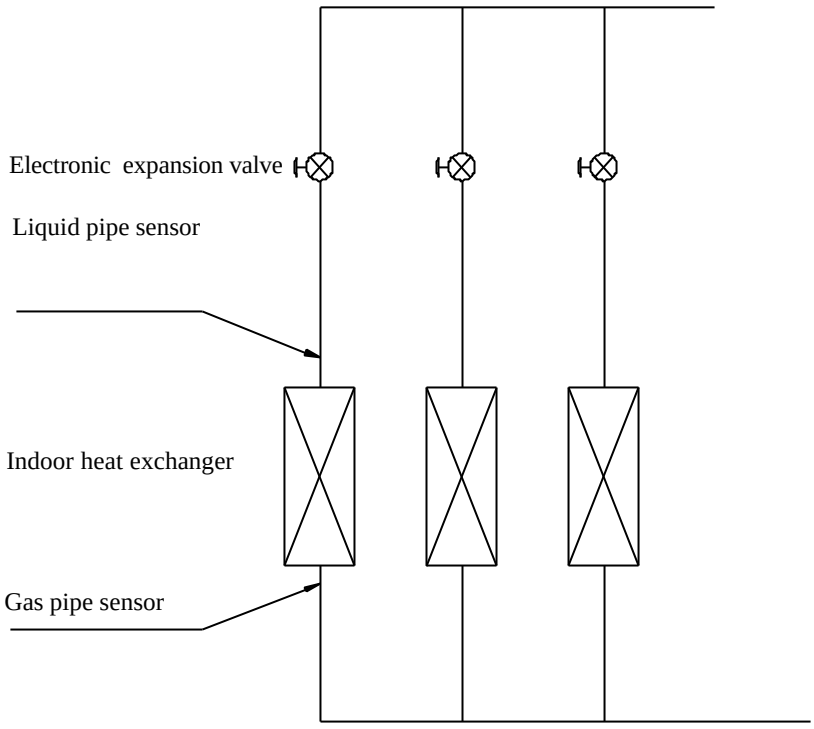


*****MODEL AU482FIAHA AU48NFIAHA**



3.2.2 Cooling system of indoor unit

(take single system connected with 3 sets of AS092FMAHA as an example)



3.2.3 The function of all kinds of heat sensitive resisters and pressure switch

(1) Outdoor unit

A. Outdoor ambient temperature heat sensitive resister: according to the outdoor ambient temperature to limit the max operation frequency and control the rotating speed of fan motor; when heating and defrosting, determine to use stop-unit-defrosting or non-stop-unit-defrosting mode.

B. Discharging air temperature heat sensitive resister of compressor: used to prevent the discharging air temperature of compressor from too high.
Suction air temperature heat sensitive resister of compressor, evaporation temperature heat sensitive resister: when heating, as the ground to control the electronic expansion valve from over heat.

C. Defrosting temperature heat sensitive resister: control the rotate speed of outdoor fan

motor together with outdoor ambient temperature heat sensitive resister; when heating, as the condition to enter and quit from defrosting.

D. Pressure switch: used to prevent the air discharging pressure of compressor from too high.

(2) Indoor unit

A. Indoors ambient temperature heat sensitive resister: together with temperature set as the ground to control thermostat.

B. Evaporator liquid pipe temperature heat sensitive resister, evaporator gas pipe temperature heat sensitive resister: when cooling, as the ground to prevent the indoor unit electronic expansion valve from to heat; according to the liquid pipe and gas pipe temperature to calculate the evaporator pipe coil temperature, as the ground to control the cooling load, heating cool air prevention, overload.

3.2.4 The schedule of the set numerical value of protective devices, functional parts

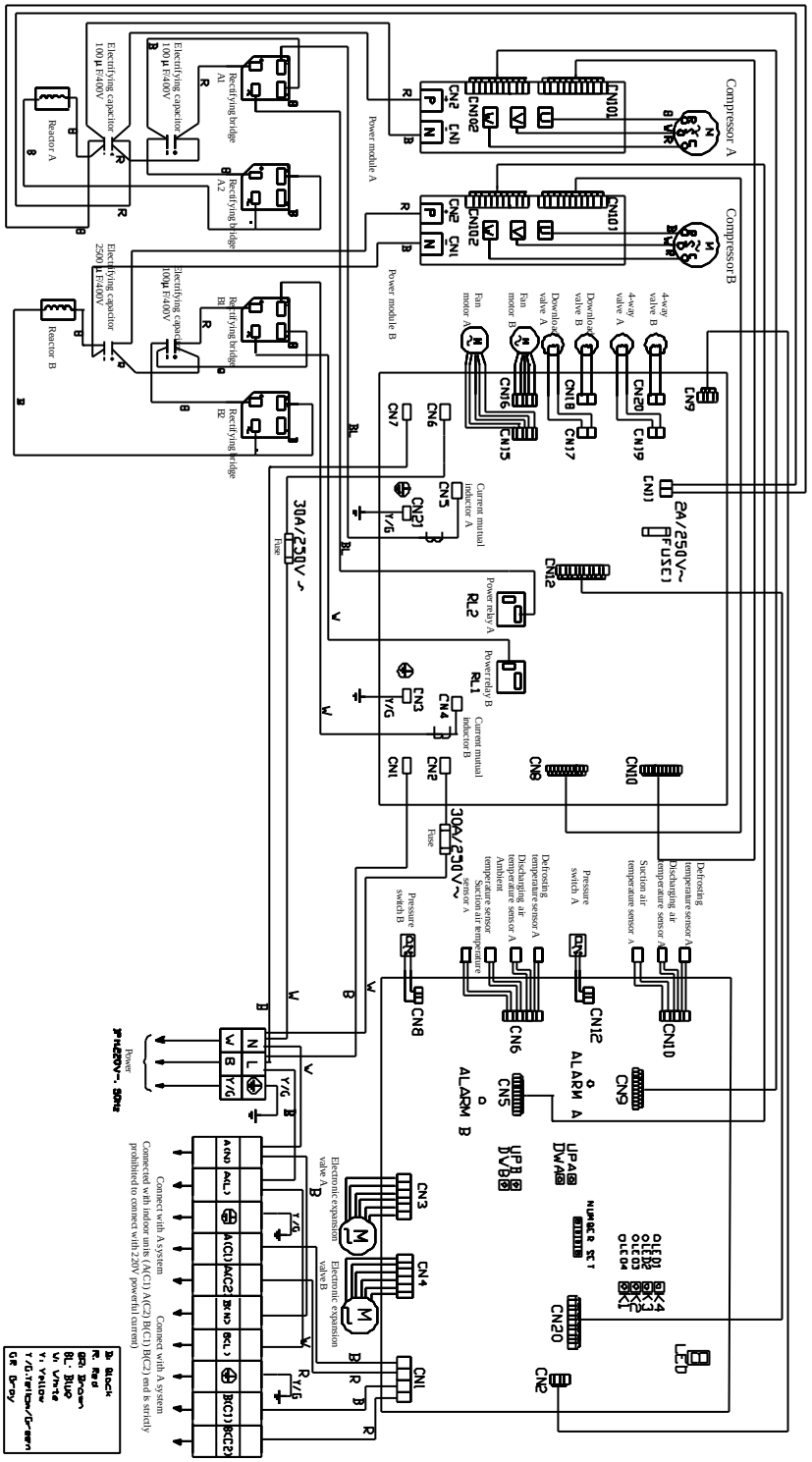
Item	Name		Set numerical value
Compressor	Rated output of compressor		Power: 1PH, 50Hz, 220~240V Output power: 1670W
	Temperature protective switch of compressor		Discharging air temperature heat sensitive resister of compressor: Off
Functional device	Fan motor		Rotate speed: 840rpm/H, 780rpm/M, 560rpm/L
	Electronic expansion valve (EKV-30D32)	Cooling	Running: 350pulse When stop: 5pulse
		Heating	Running: overheat control When stop: 5pulse
	Electromagnetic valve (download)		-
Sensors	Pressure switch		Action pressure:3.0Mpa Reset pressure:2.4MPa
	Heat sensitive resister (outdoor ambient temperature) PXEC-43A-H1-2		B value: 3700K (25℃/50℃) Normal resister value range:R_{25}=10kΩ
	Heat sensitive resister (compressor discharging air) PMM-62A-H2		B value: 4450K (25℃/80℃) Normal resister value range:R_{80}=50kΩ
	Heat sensitive resister (Compressor suction air) PXM-43A-H6-2		B value: 3700K (25℃/50℃) Normal resister value range:R_{25}=10kΩ
	Heat sensitive resister (Evaporator temperature) PXM-43A-H6-2		B value: 3700K (25℃/50℃) Normal resister value range:R_{25}=10kΩ

4 ELECTRICAL DATA

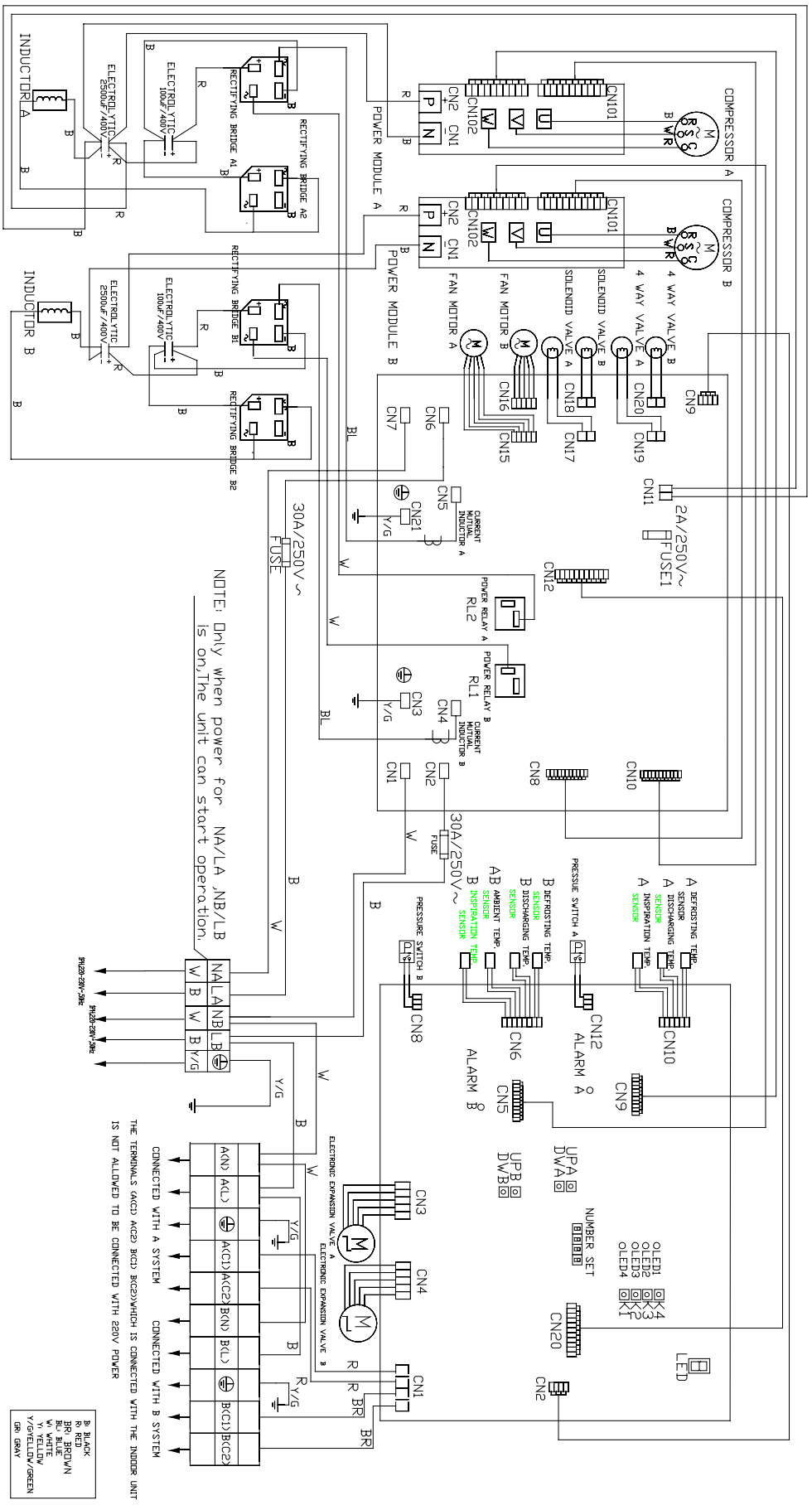
4.1 Wiring Diagram

4.1.1 Outdoor unit

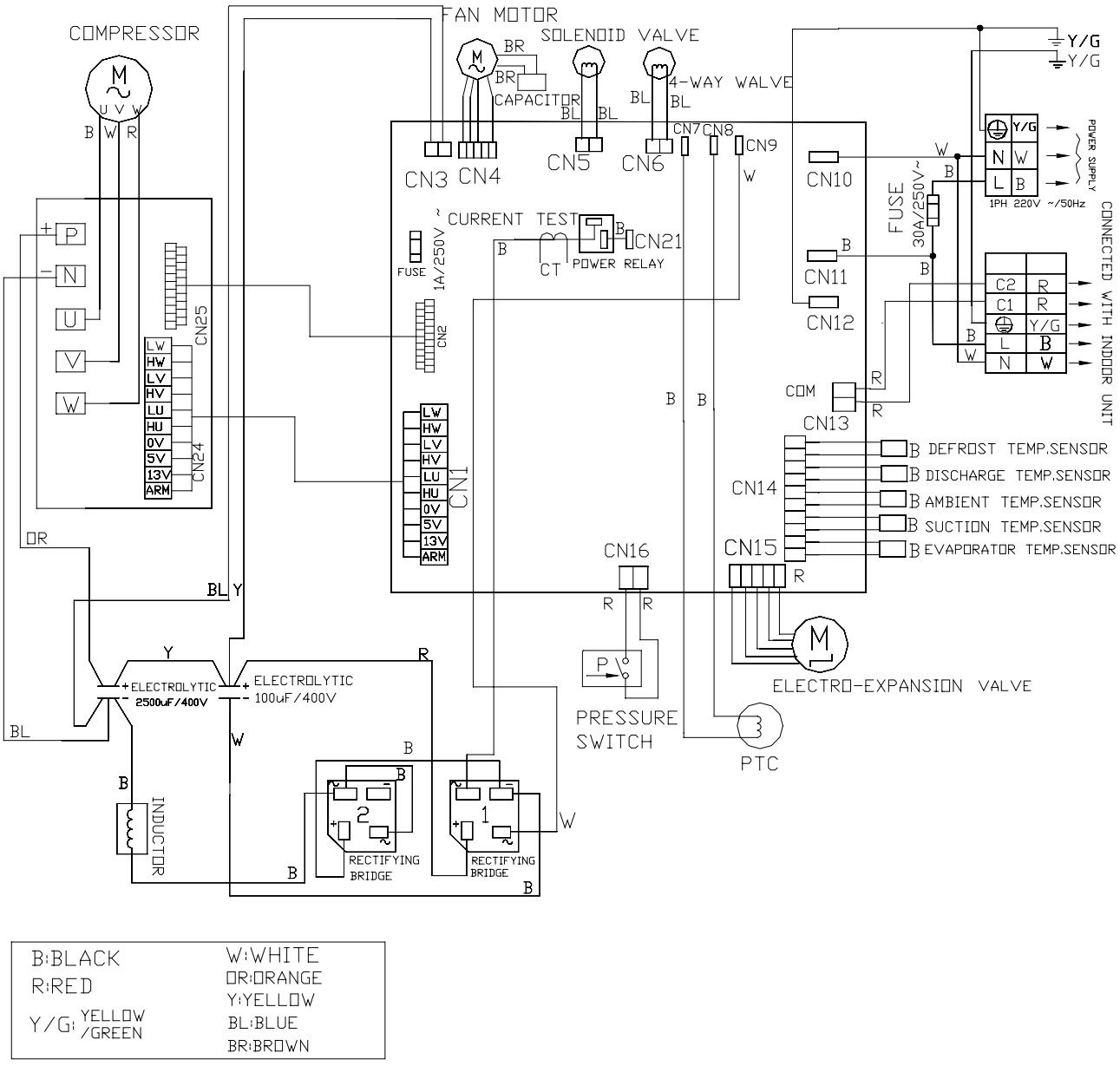
1) Model: AU422FIAHA



2) Model: AU422FIAIA / AU422FIBIA

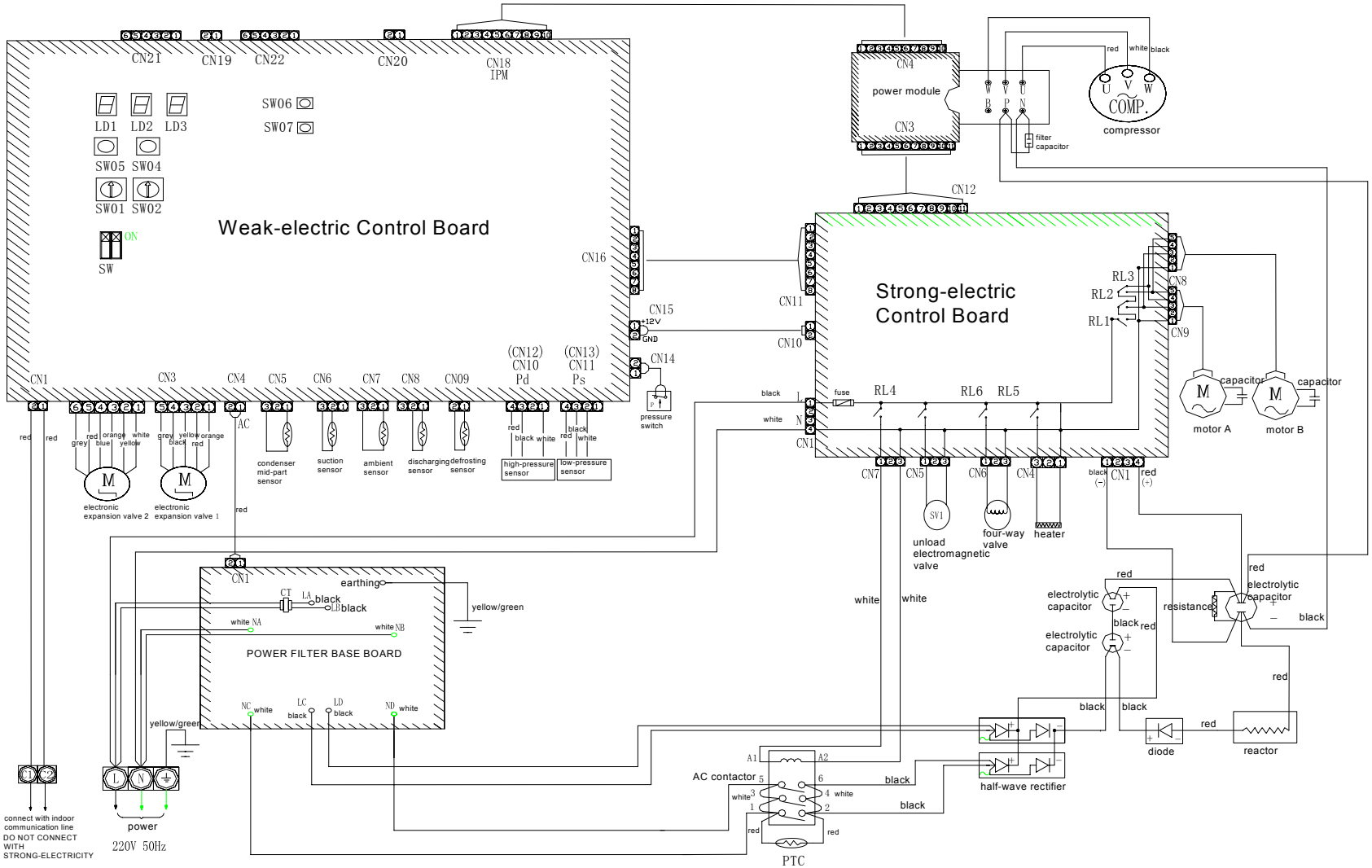


3) model: AU242FHAHA / AU242FHBHA



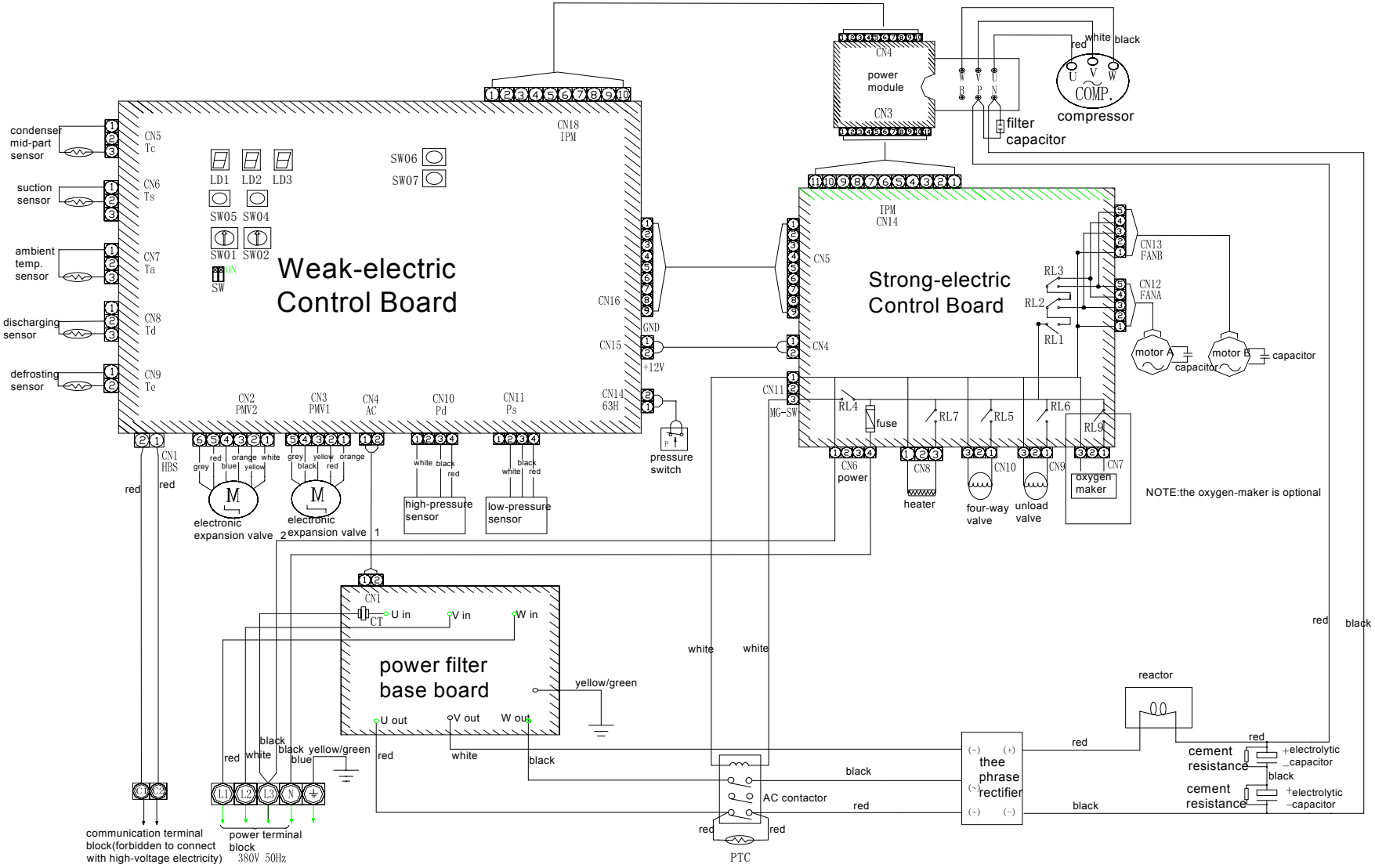
B:BLACK	W:WHITE
R:RED	OR:ORANGE
Y/G: YELLOW /GREEN	Y:YELLOW
	BL:BLUE
	BR:BROWN

***AU482FIAHA



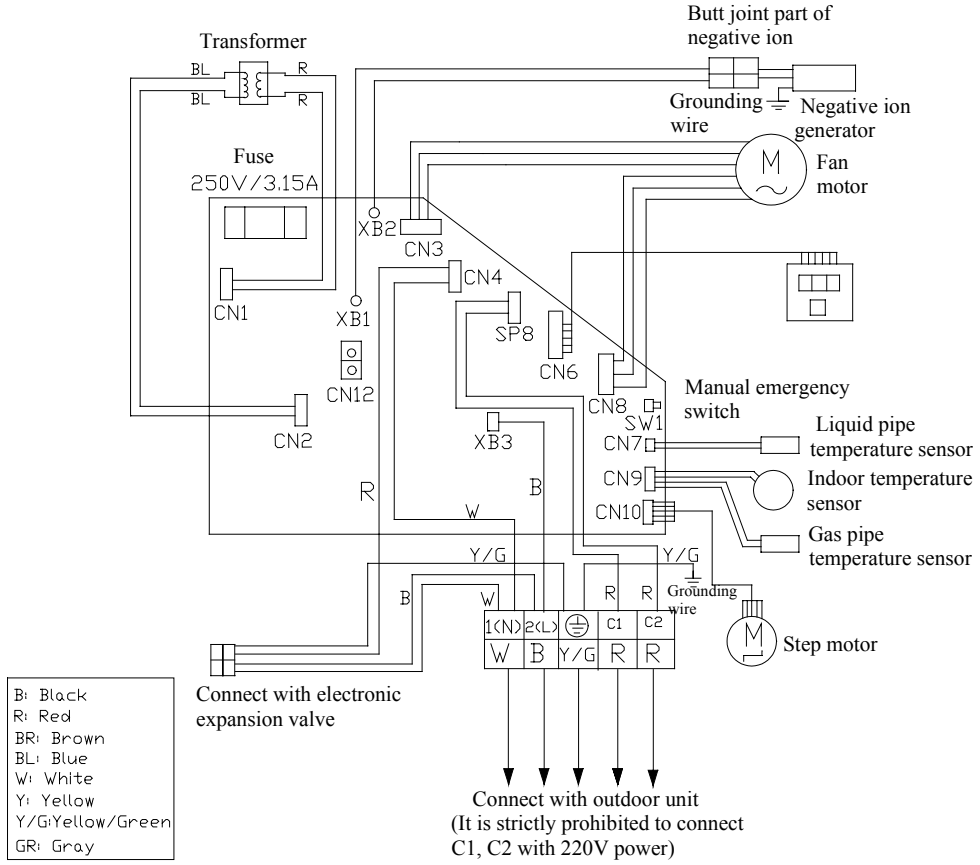
NOTE:the functions of select switches in the figure refer to the operation manual.

***AU48NFIAHA

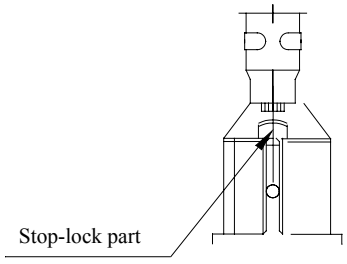

Weak-electric Control Board
Strong-electric Control Board
power filter base board
power module
compressor
COMP.
filter capacitor
condenser mid-part sensor
suction sensor
ambient temp. sensor
discharging sensor
defrosting sensor
CN5 Tc
CN6 Ts
CN7 Ta
CN8 Td
CN9 Te
CN18 IPM
CN16
CN15
CN14 63H
CN2 PMV2
CN3 PMV1
CN4 AC
CN10 Pd
CN11 Ps
CN1 HBS
LD1 LD2 LD3
SW06 SW07
SW05 SW04
SW01 SW02
SW
pressure switch
electronic expansion valve 2
electronic expansion valve 1
high-pressure sensor
low-pressure sensor
CN13 FANB
CN12 FANA
RL3 RL2 RL1
RL4 RL7 RL5 RL6 RL9
fuse
motor A
motor B
capacitor
CN6 power
CN8 heater
CN10 four-way valve
CN9 unload valve
CN7 oxygen maker
NOTE:the oxygen-maker is optional
U in V in W in
U out V out W out
CT
yellow/green
reactor
cement resistance
electrolytic capacitor
thee phrase rectifier
AC contactor
PTC
communication terminal block(forbidden to connect with high-voltage electricity)
power terminal block 380V 50Hz
L1 L2 L3 N

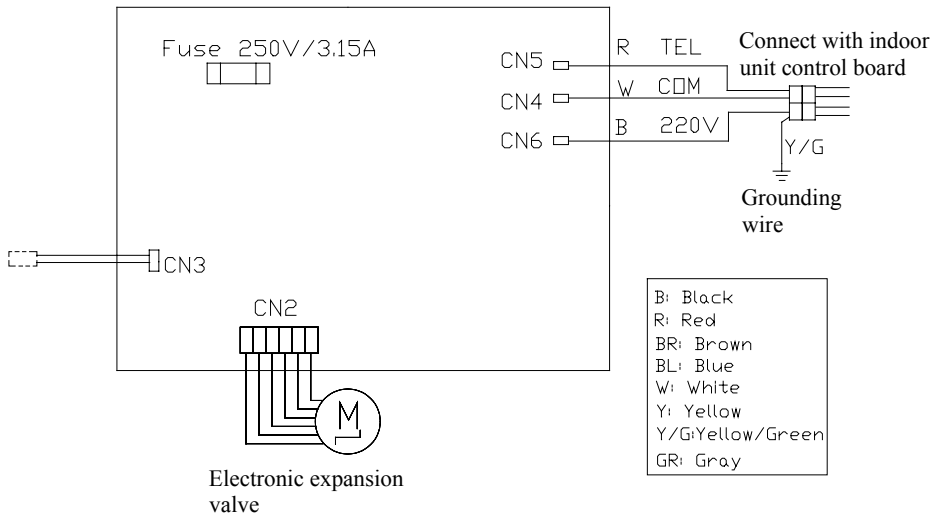
4.1.2 Indoor unit

1) Model: AS062FMAHA/AS072FMAHA/AS092FMAHA / AS092FMBHA/AS122FBBHA/AS122FMAHA

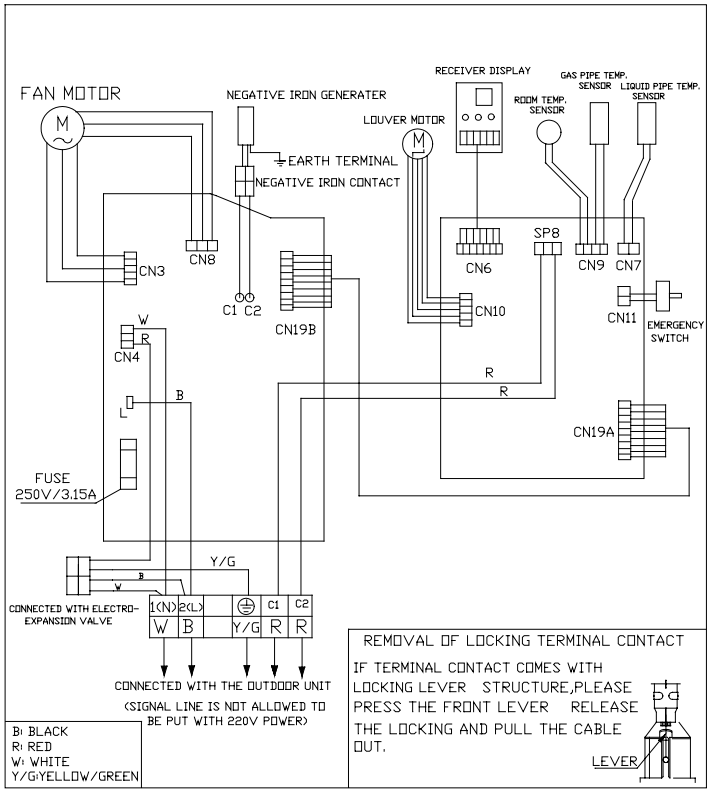


Pull-out method of package part: if the package part is self-lock terminal as shown in Fig., press the stop-lock part, then pull outward

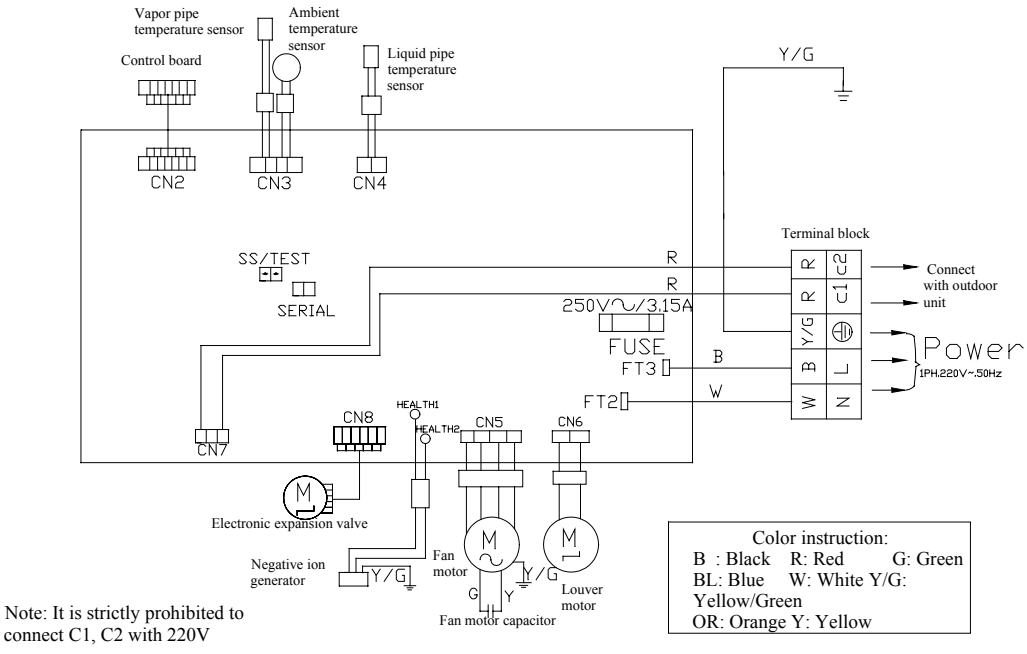




2) Model: AS182FTAHA / AS182FTBHA

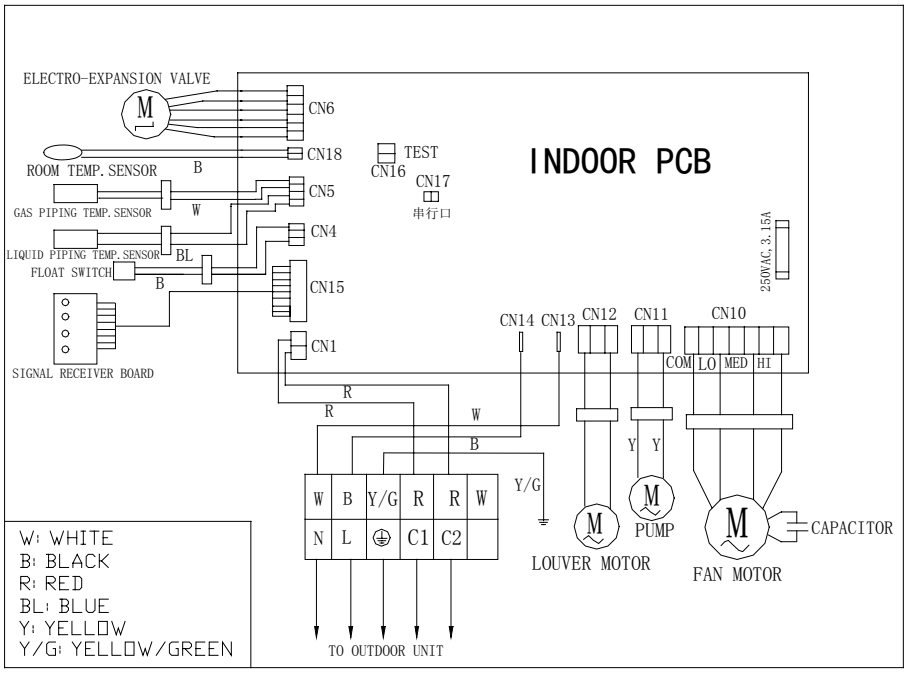


3) Model: AP182FAAHA

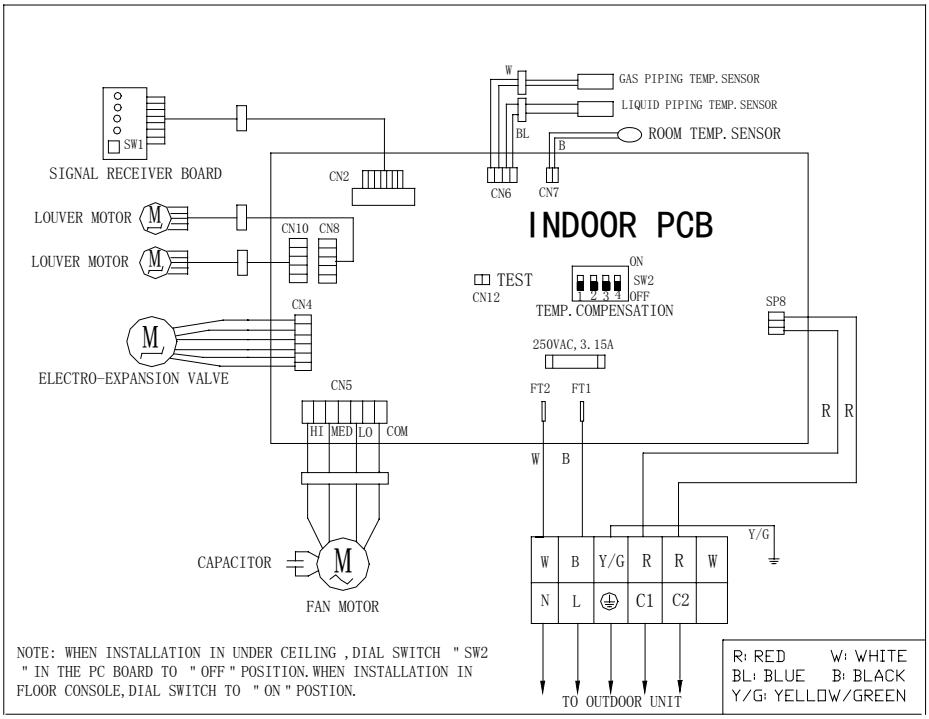


Note: It is strictly prohibited to connect C1, C2 with 220V power

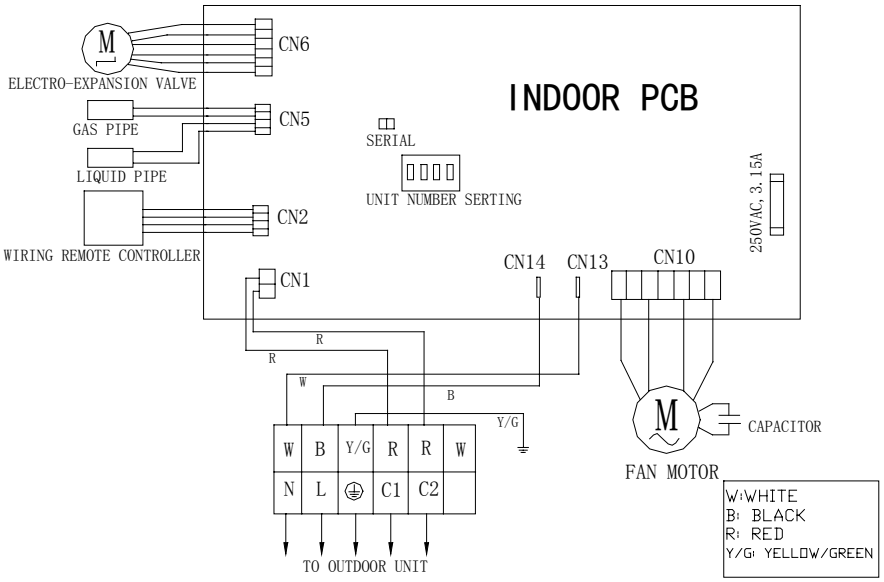
4) Model: AB092FCBHA / AB142FCBHA / AB182FCAHA



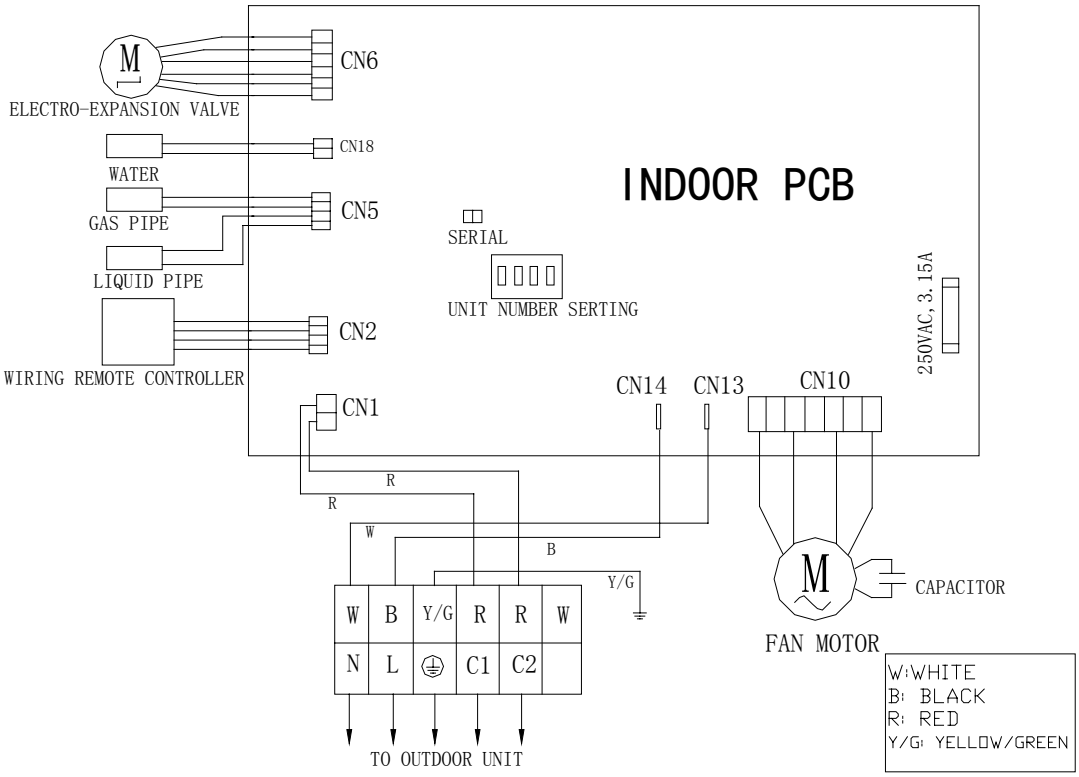
5) Model: AC142FCBHA / AC182FCBHA / AC182FCAHA



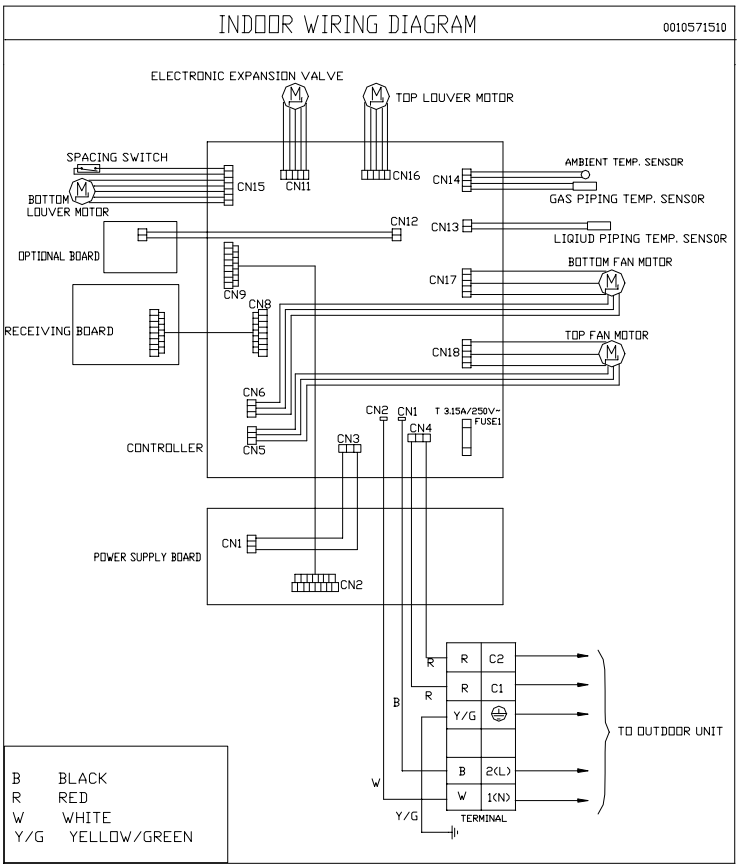
6) Model: AE092FCAHA /AE092FCBHA /AE182FCAHA /AE182FCBHA



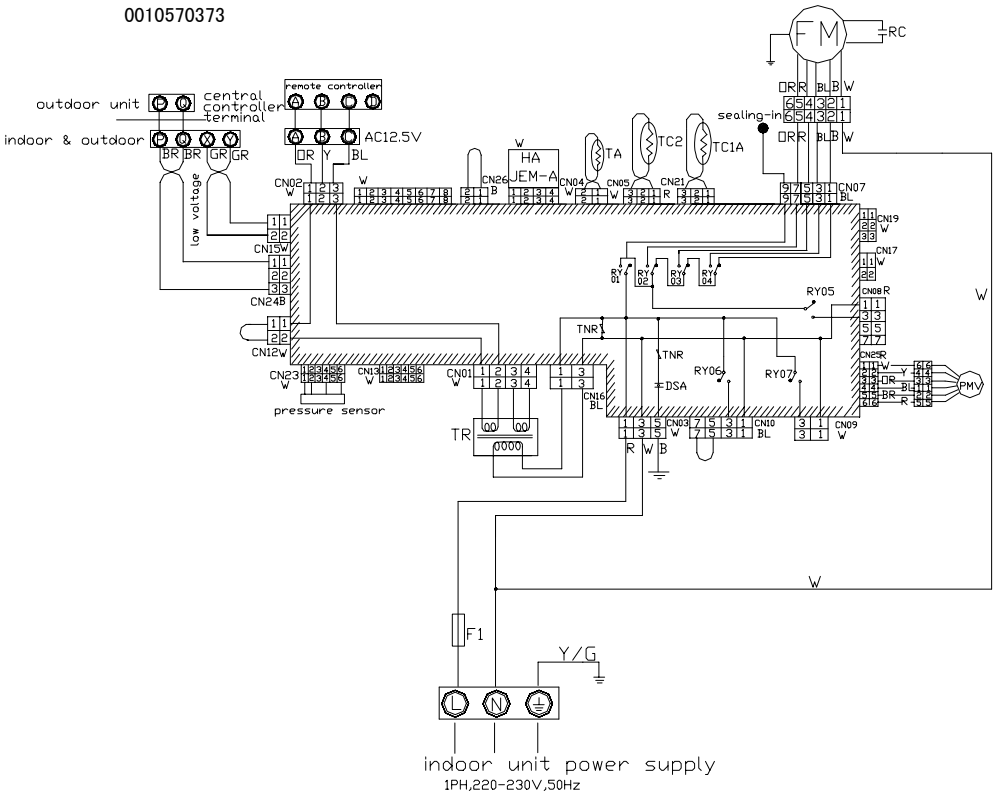
7) Model: AE112FCBIA / AE182FCBIA (TES)



8) Model: AF092FCBHA / AF122FCBHA

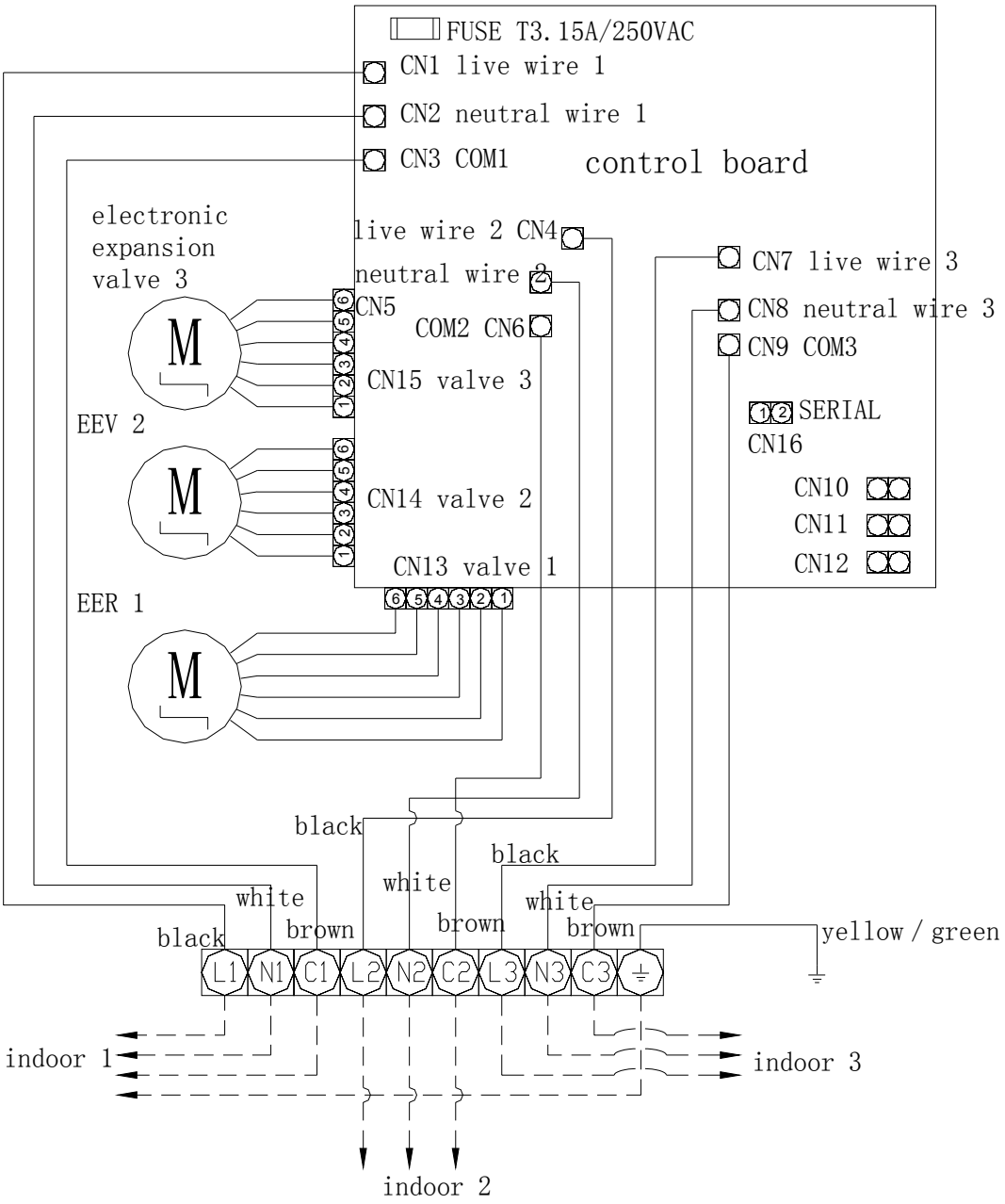


9) Model: AD142FCBHA / AD182FCBHA



MP3 wiring diagram:

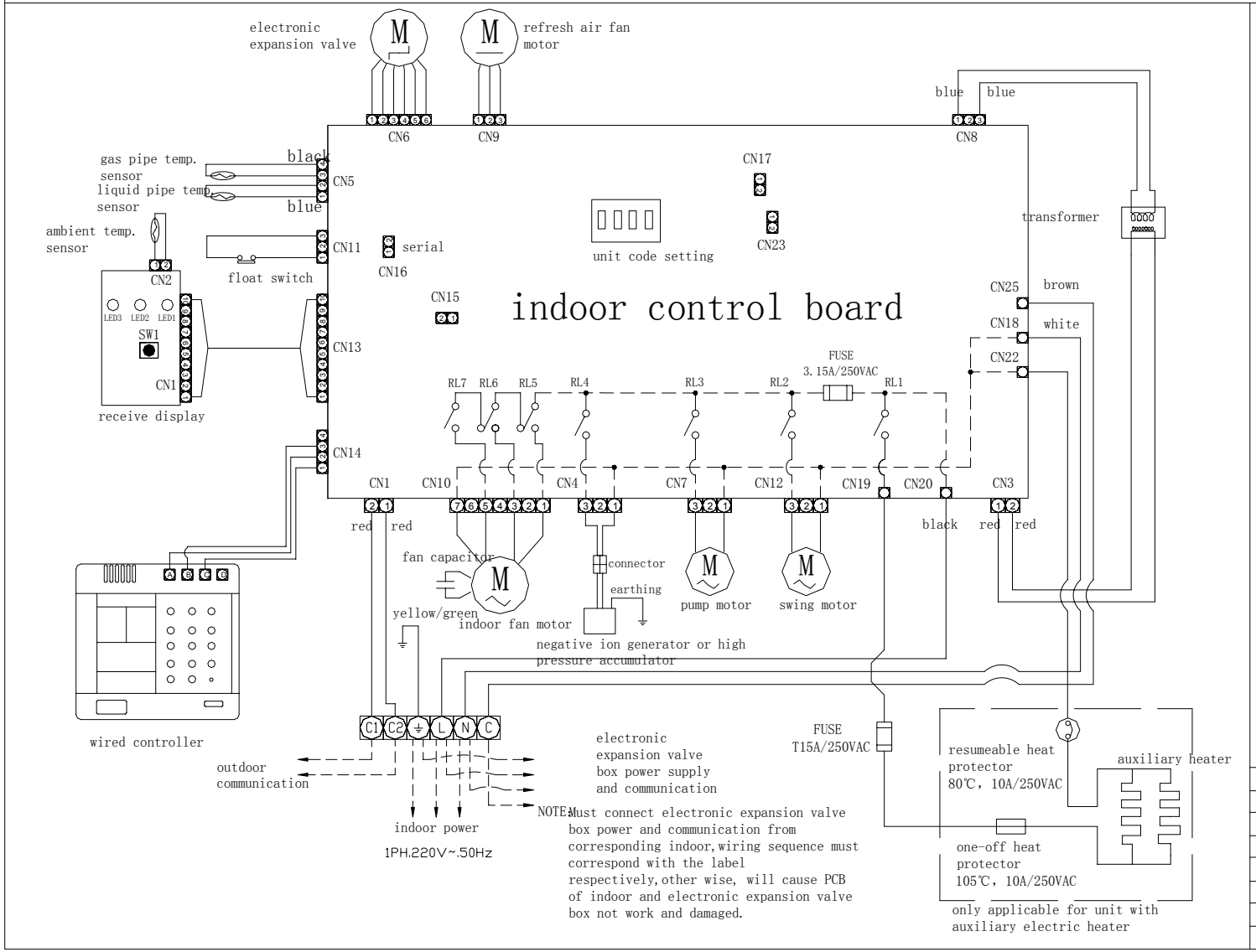
Electronic expansion valve wiring diagram



NOTE： Valve box power supply and communication wire must be connected with the corresponding indoor,wiring sequence must be correspondent respectively,L and N must not be connected reversely,otherwise will cause the unit not work and damaged.
On running, "indoor 1" must be electrified always,or air conditioner does not work normally.

AE072FCAKA、AE092FCAKA、AE122FCAKA、AE182FCAKA、AE212FCAKA、AE242FCAKA：

Indoor unit wiring diagram



NOTE:the dashed "———"in indoor controll board is PCB inner wiring.

About control board outer connector:

in the diagram,gas pipe temp. sensor 、liquid pipe temp. sensor、indoor fan motor 、transformer are necessary parts; wired controller、receive display、electronic expansion valve、float switch、pump motor 、swing motor are parts matched with the model(combined usage) ; auxiliary electric heater、refresh air fan motor、negative ion generator、high pressure accumulator are optional parts for health and comfort (combination usage arbitrarily).wired controller and receive display only can choose one at will.

the unit with remote controller is matched with receive display:

1.ceiling concealed type:CN11 must be short connected with a jump wire;

2.duct type: connected with float switch and pump motor;

3.cassette type:connected with float switch、pump motor and swing motor;

4.cabinet type:CN11 must be short connected with a jump wire, connected with swing motor;

the unit with wired controller(equipped with wired controller, can make remote operation on wired controller with remote controller such as YR-H39):

short connect CN15、CN17 together with jump wire, other parts are as the same as remote control unit.。

bulit-out electronic expansion valve setting(MP3): CN23 is cut circuit, CN25 is connected with electronic expansion valve communication,and the electronic expansion valve box(MP3) control indoor refrigerant flow.

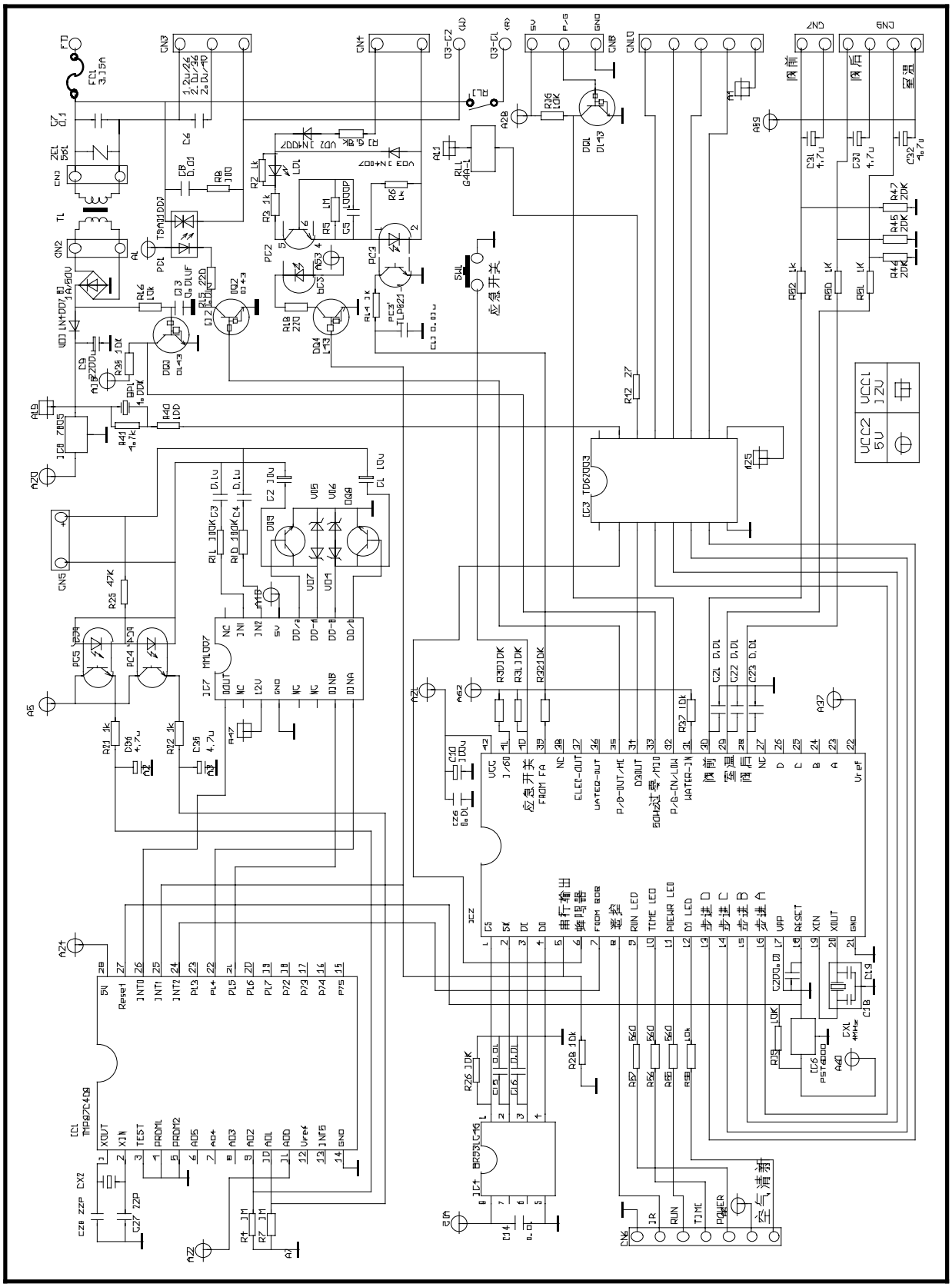
built-in electronic expansion valve setting: CN23 is short connected with a jump wire, CN6 is connected with electronic expansion valve, and indoor unit control refrigerant flow itself。

		SW1	emergency switch(ON/OFF)
		RL7	indoor fan motor low-speed relay
		RL6	indoor fan motor Mid-speed relay
		RL5	indoor fan motor High-speed relay
		RL4	health function module relay
LED3	indicator (running—red)	RL3	pump motor relay
LED2	indicator (timer—yellow)	RL2	swing motor relay
LED1	indicator (power—green)	RL1	auxiliary eletric heater relay

4.2 Circuit Diagram

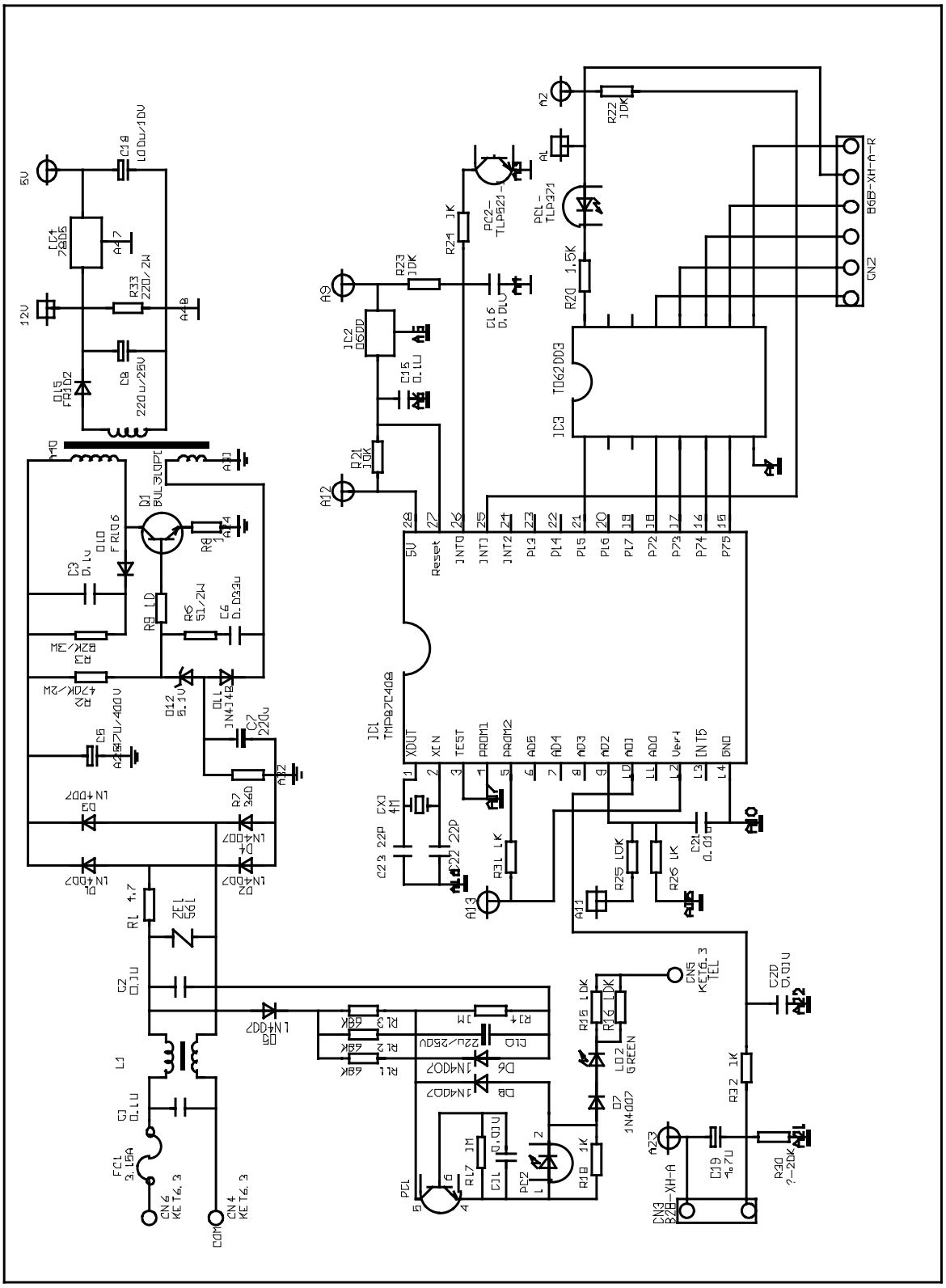
4.2.1 Indoor unit

Model: AS092FMAHA / AS092FMBHA

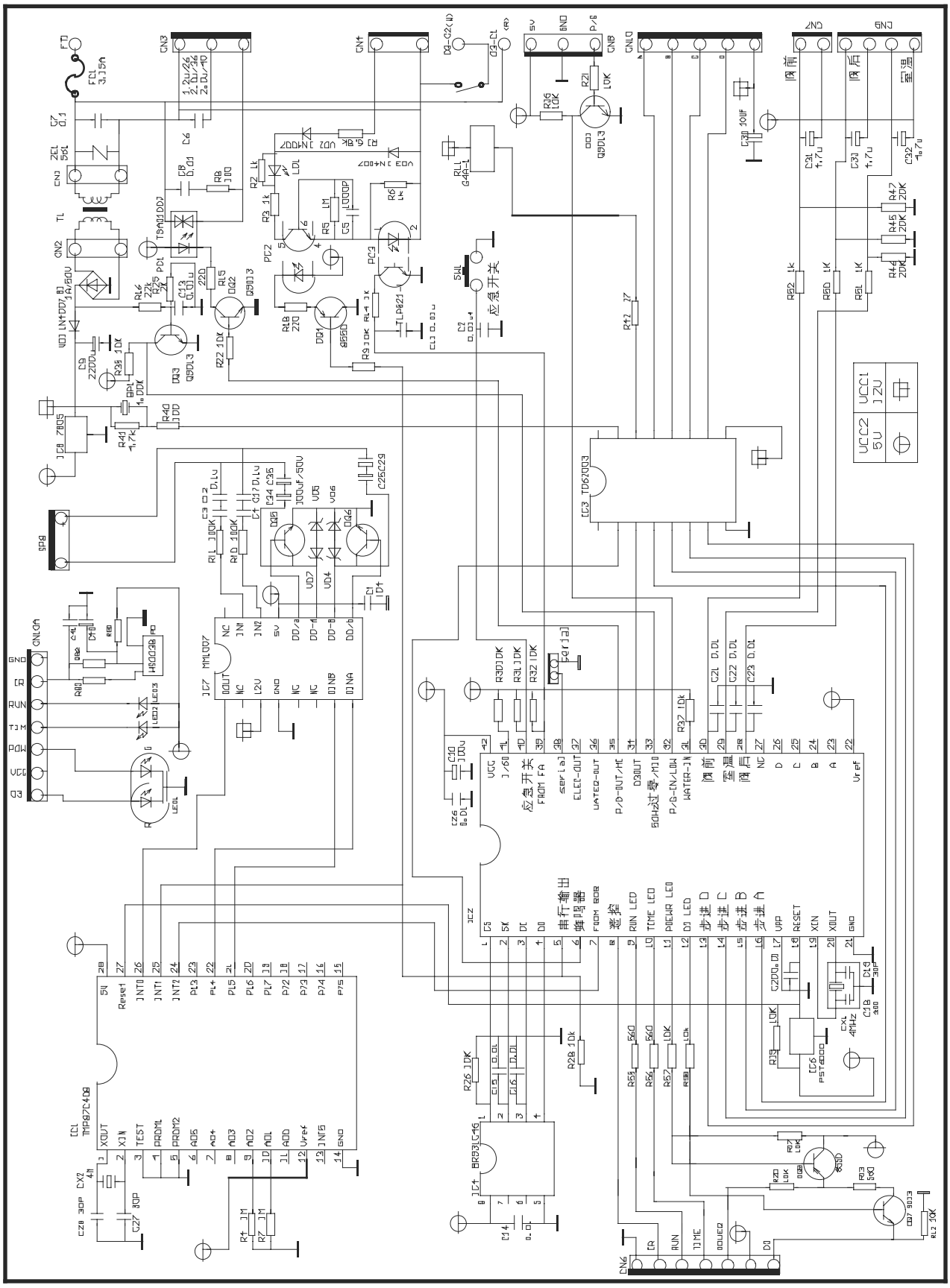


Model: expansion valve

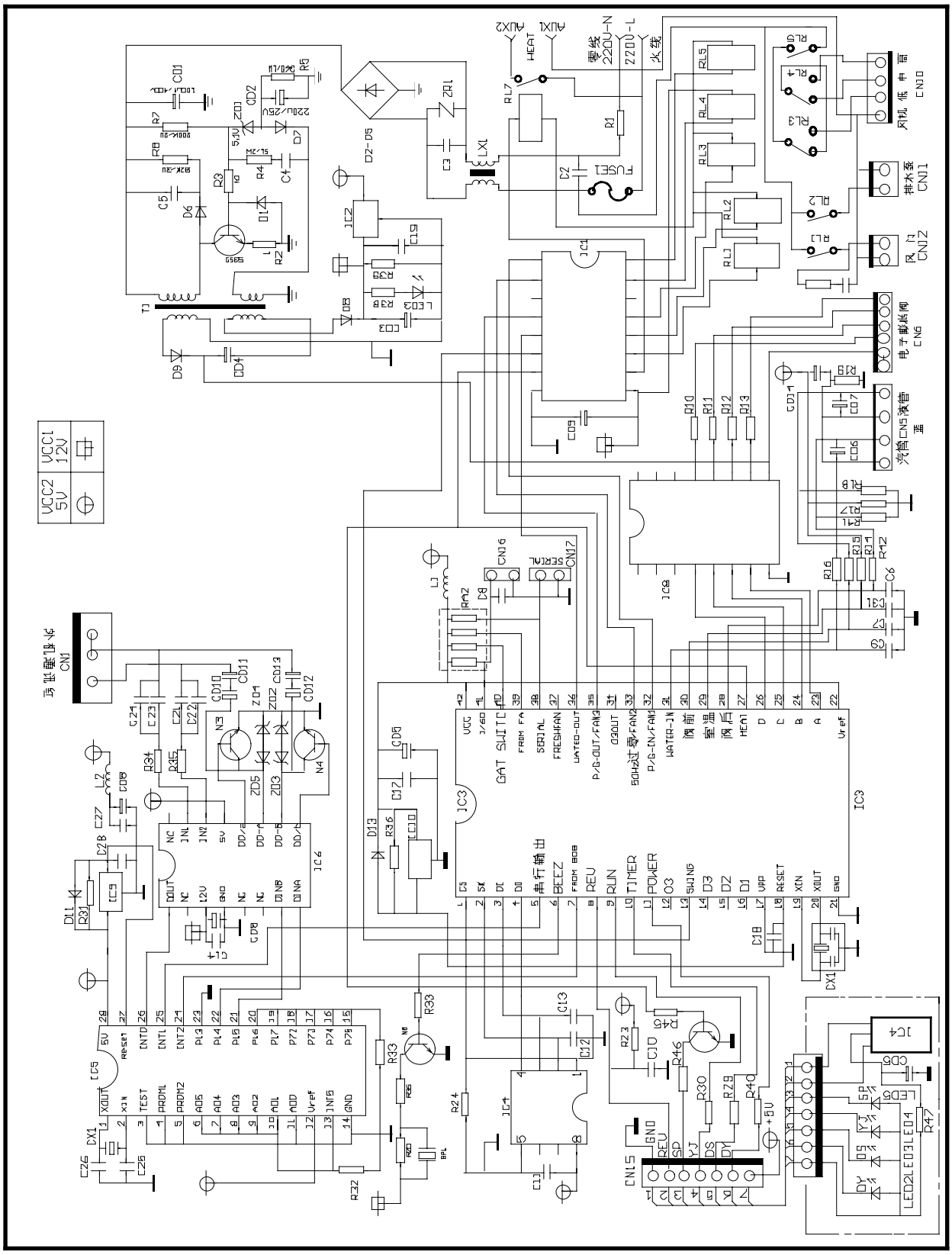
MRV circuit diagram of control board for electrical expansion valve



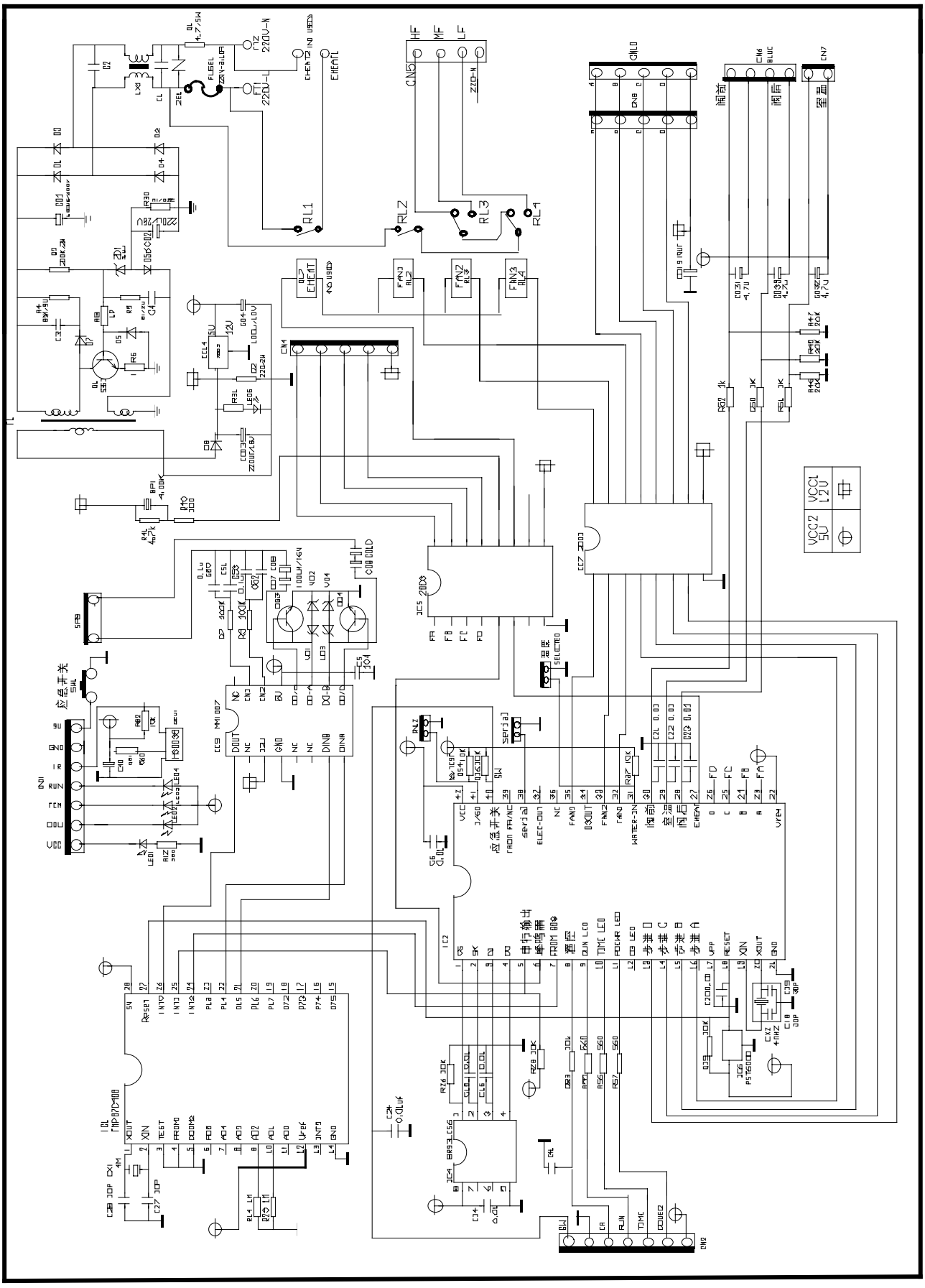
Model: AS182FTAHA / AS182FTBHA



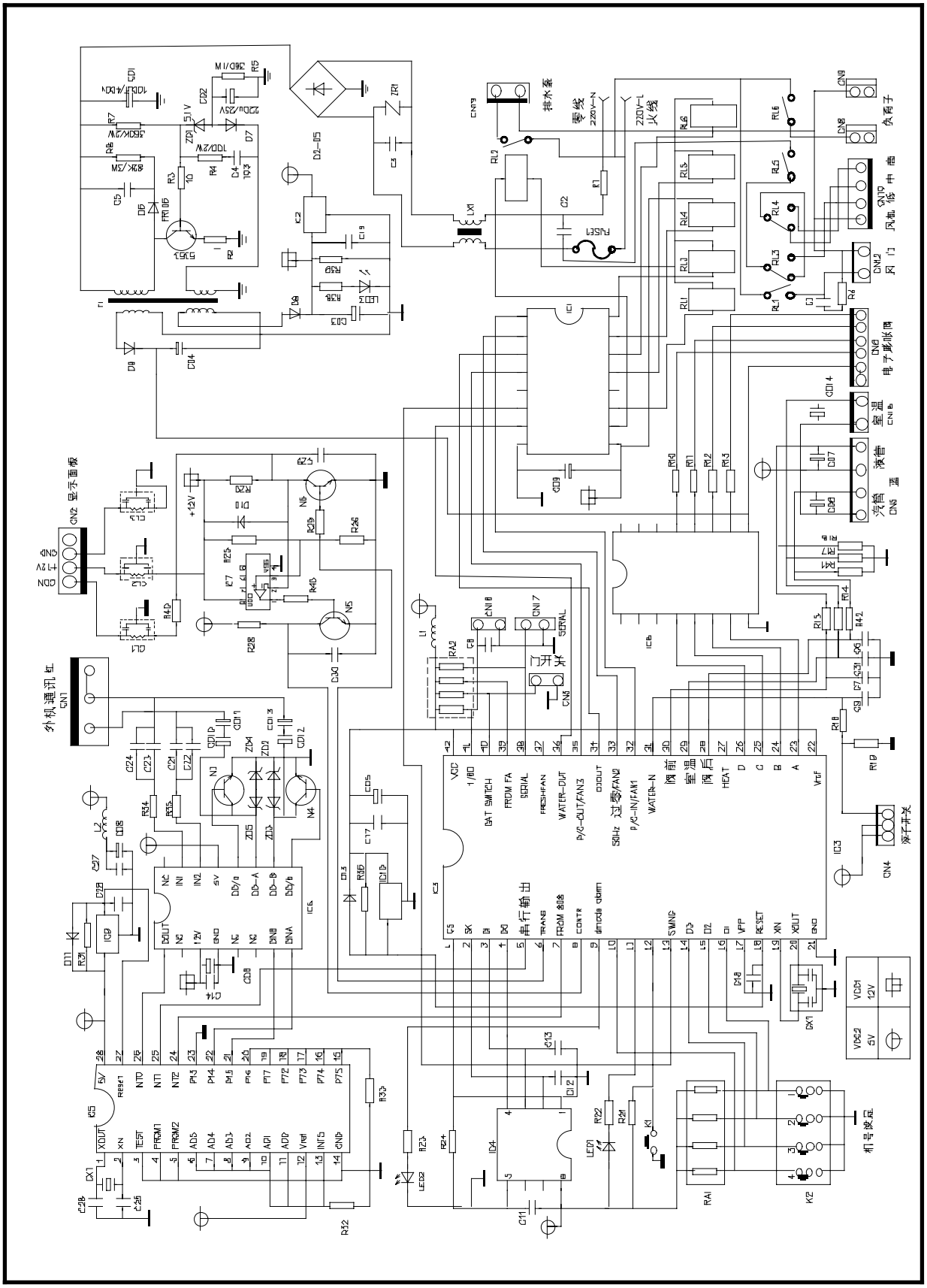
Model: AB182FCAHA /AB182FCBHA / AB092FCBHA / AB142FCBHA



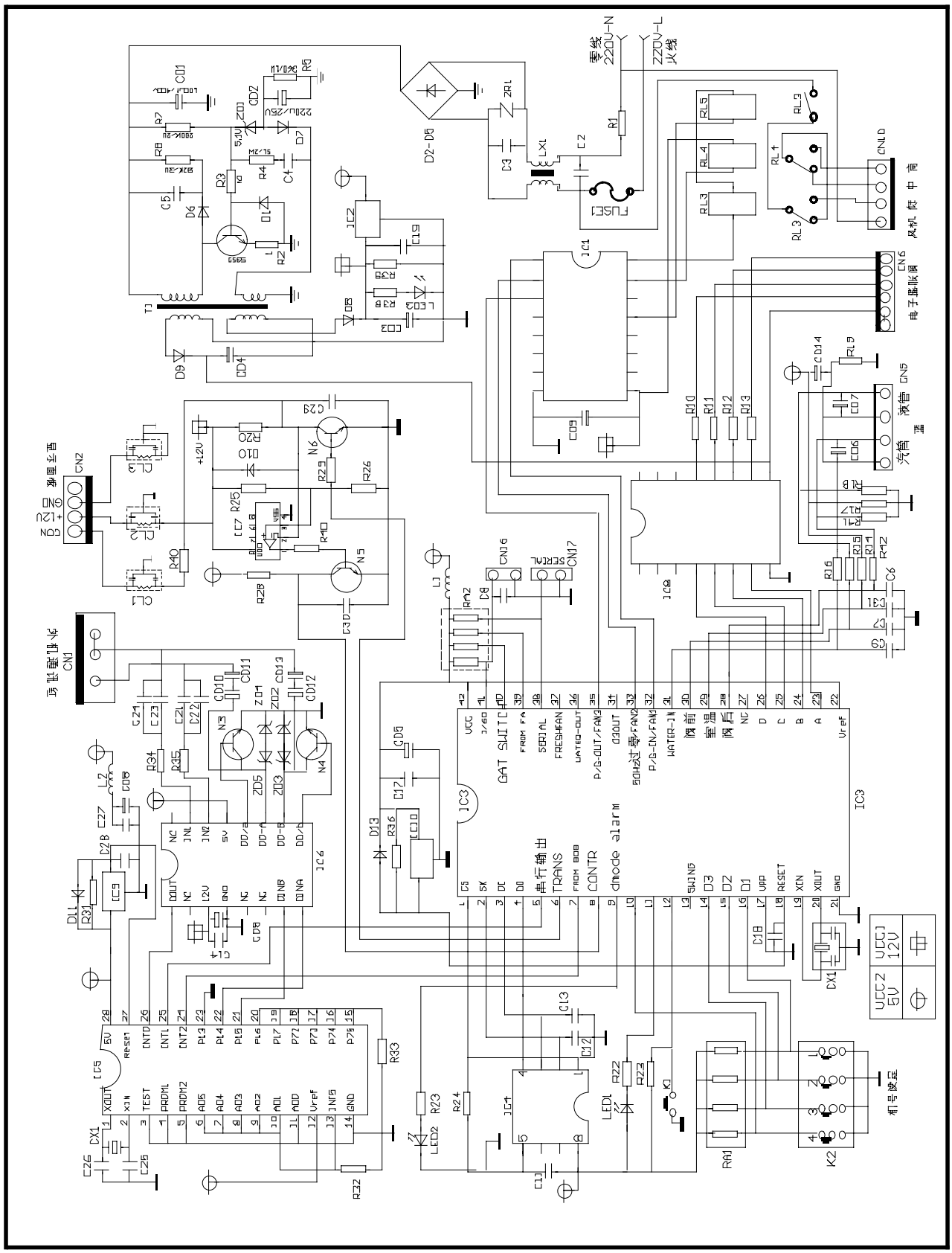
Model: AC182FCAHA / AC182FCBHA / AC142FCBHA



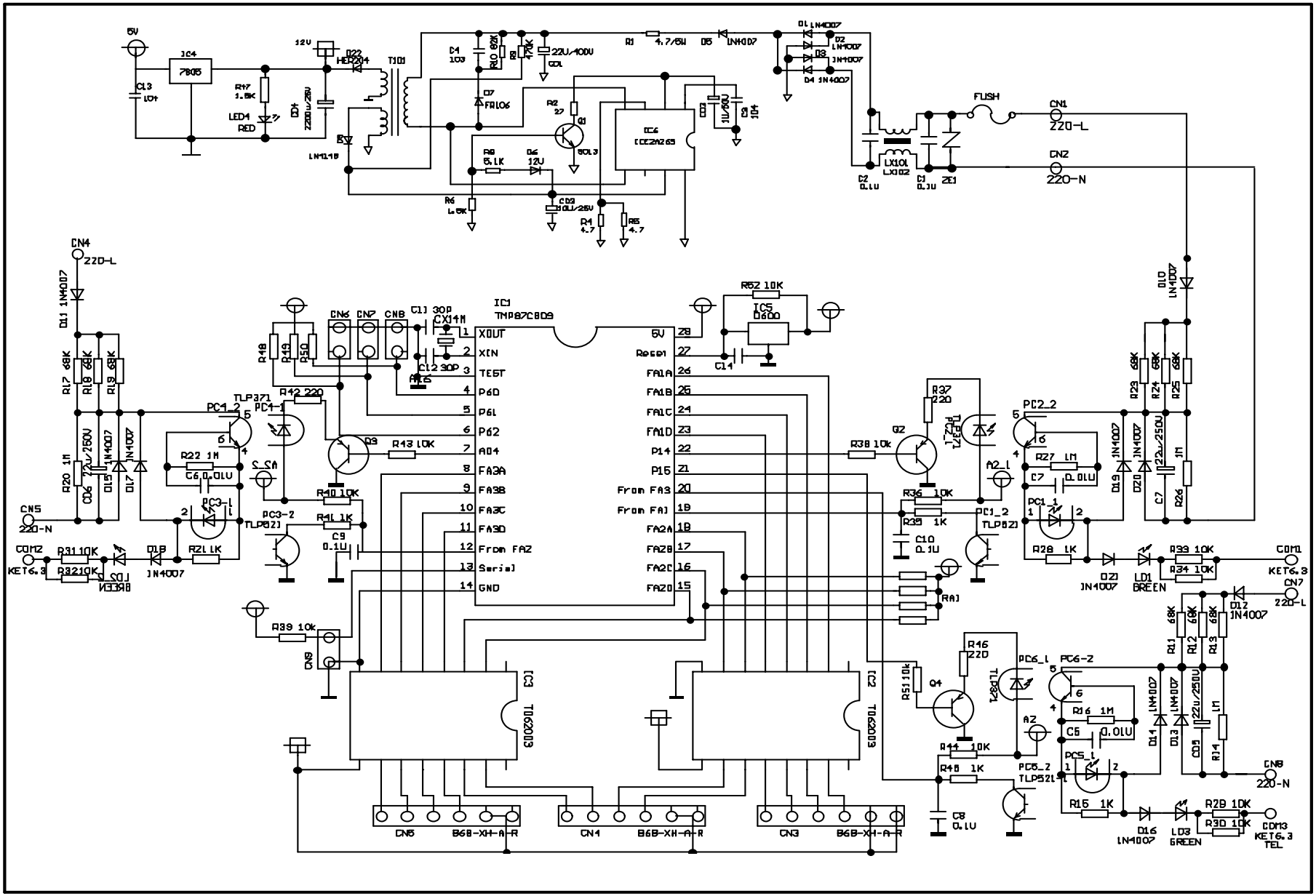
Model: AD142FCBHIA / AD182FCBHIA



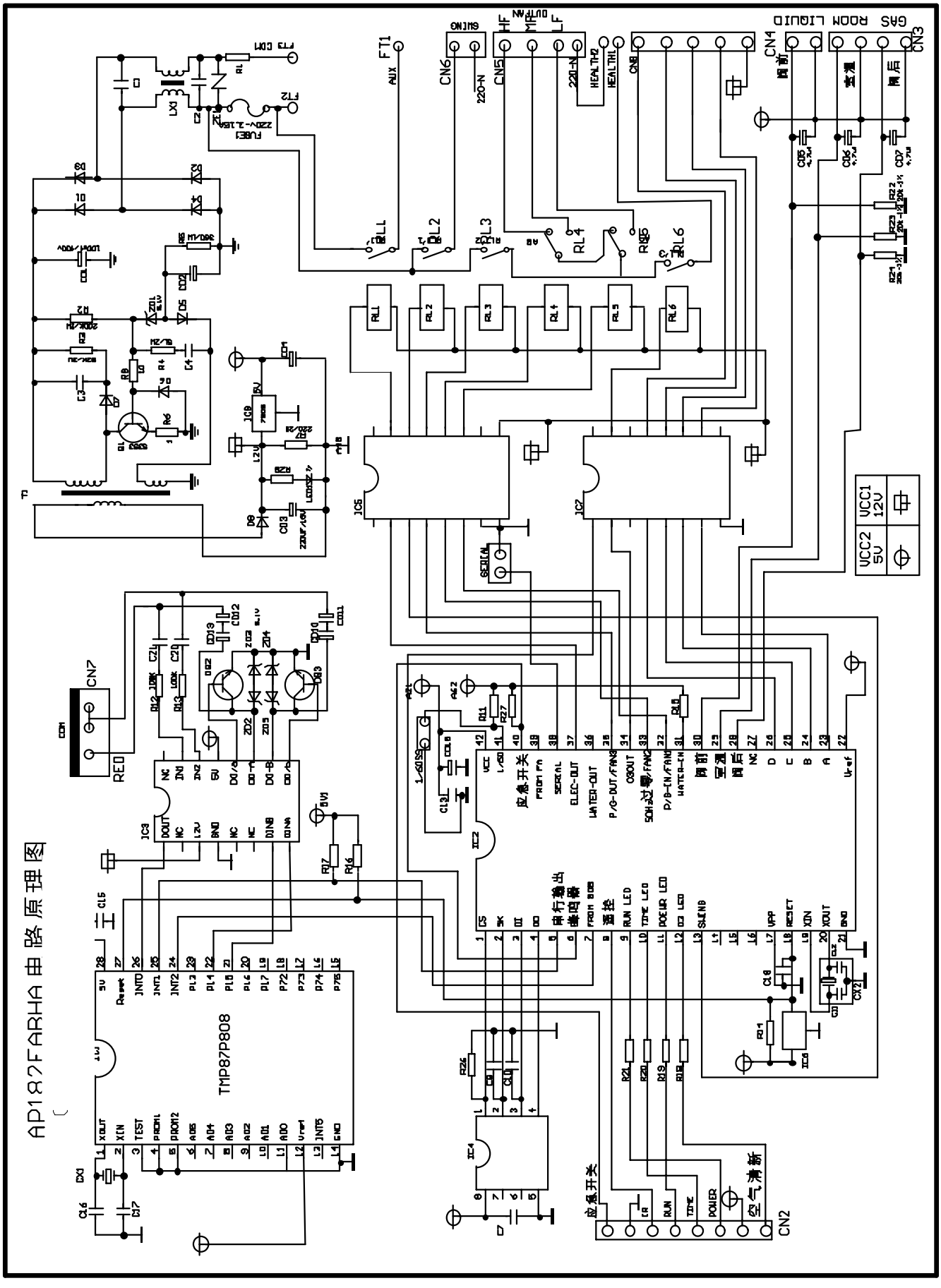
Model: AE092FCAHA / AE092FCBHA / AE182FCAHA / AE182FCBHA



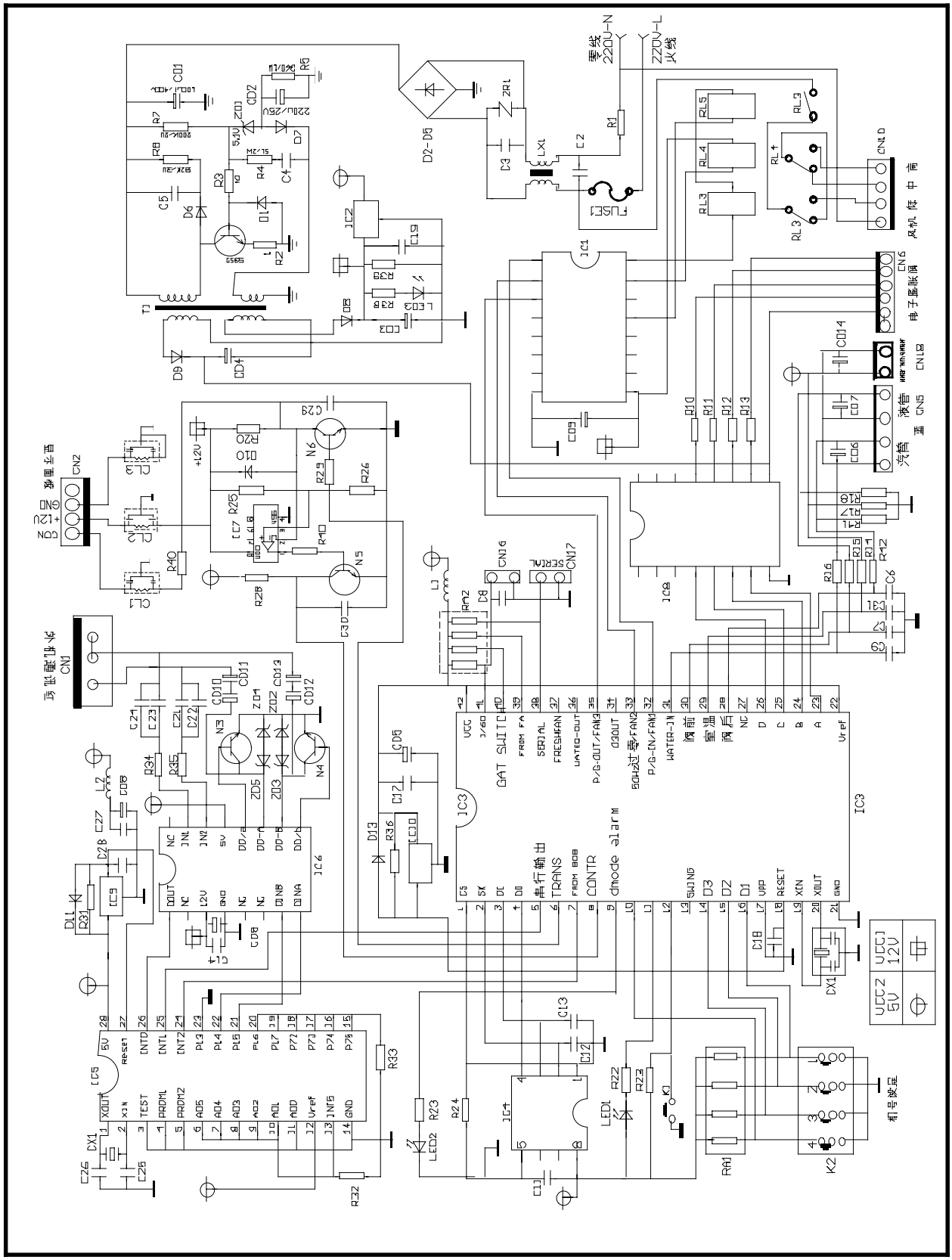
MP3 circuit diagram:



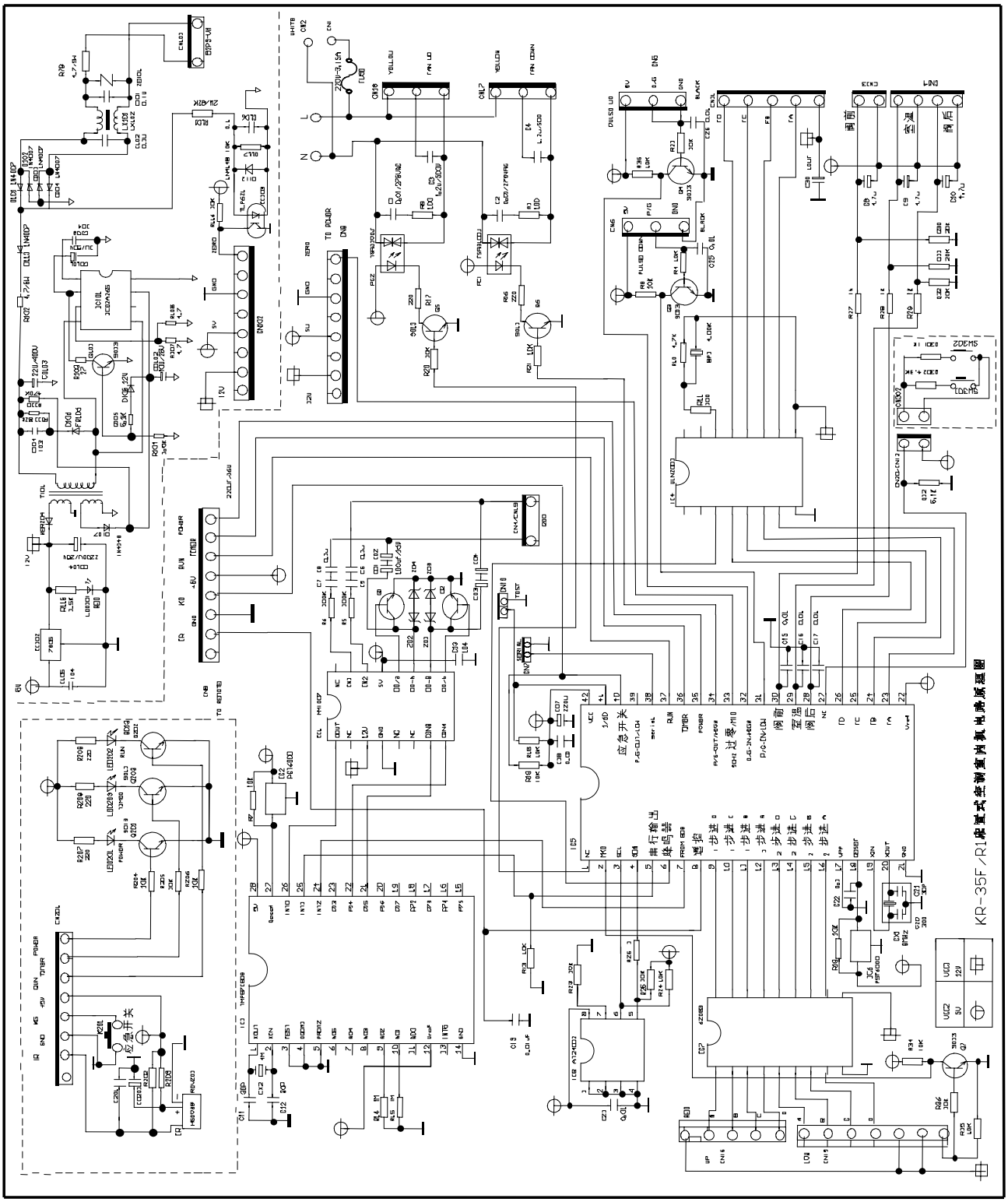
Model: AP182FAAHA



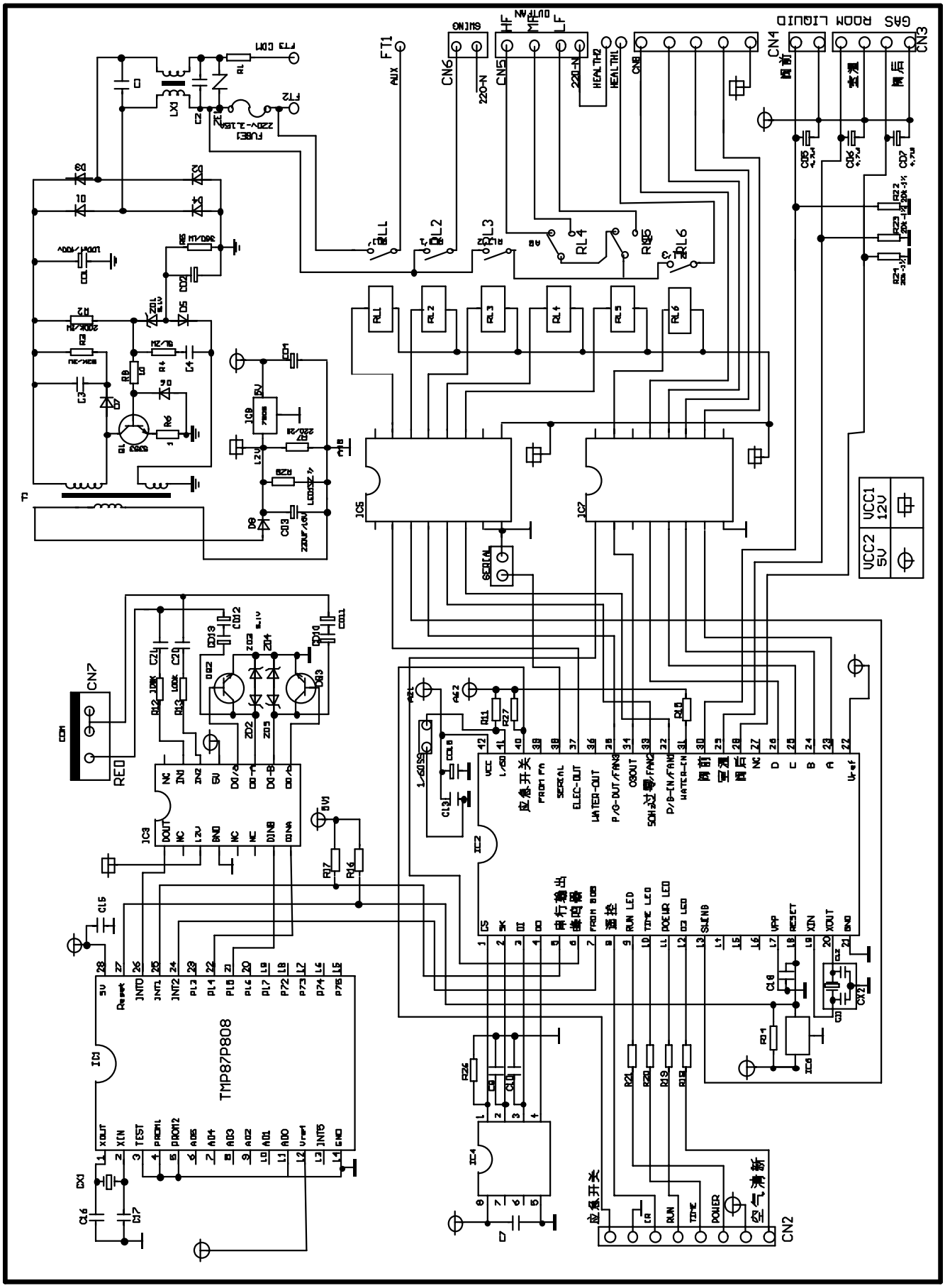
Model: AE112FCBIA / AE182FCBIA (TES)



Model: AF092FCBHA / AF122FCBHA



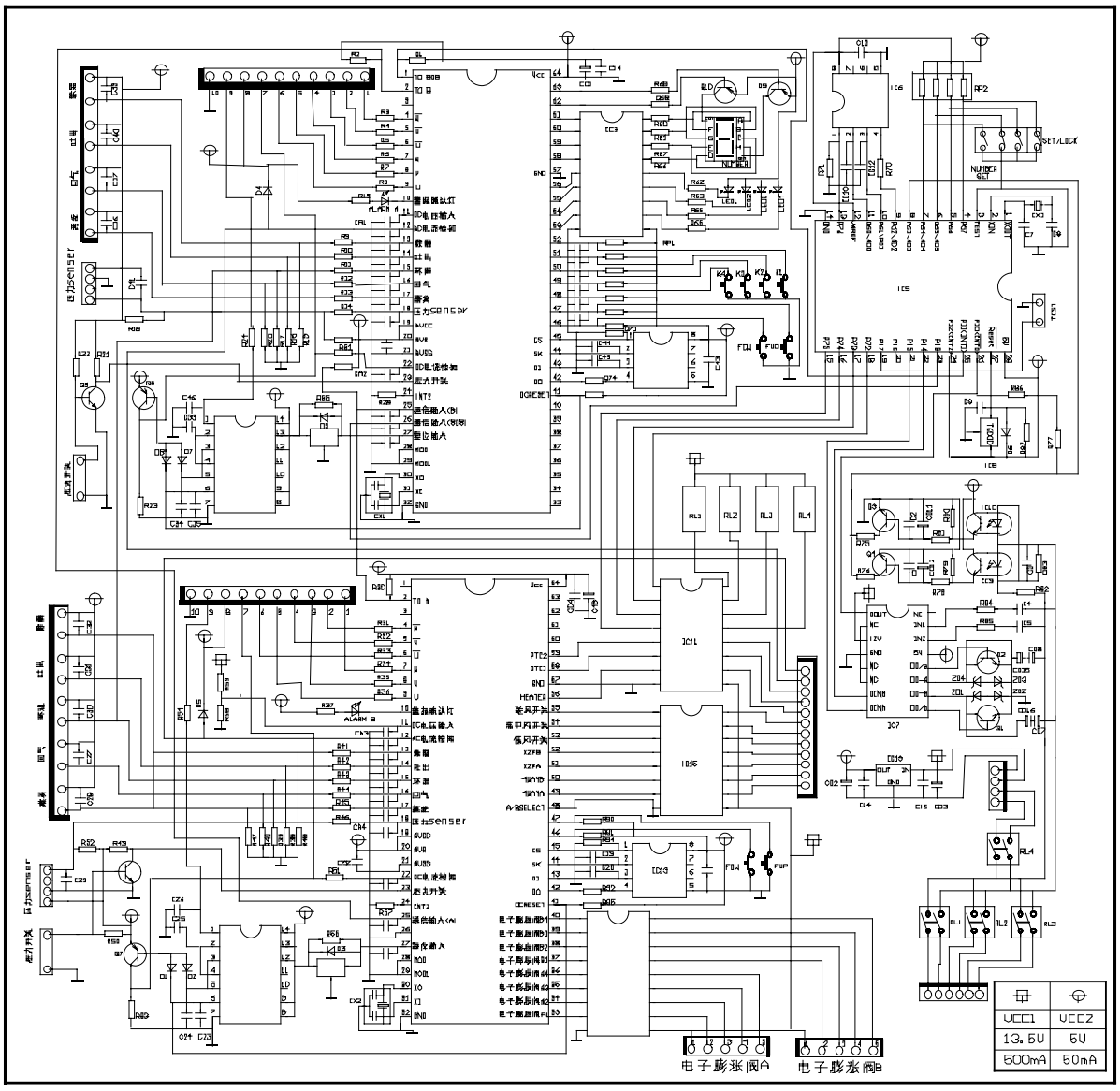
Model: AP182FAAHA / AP182FABHA



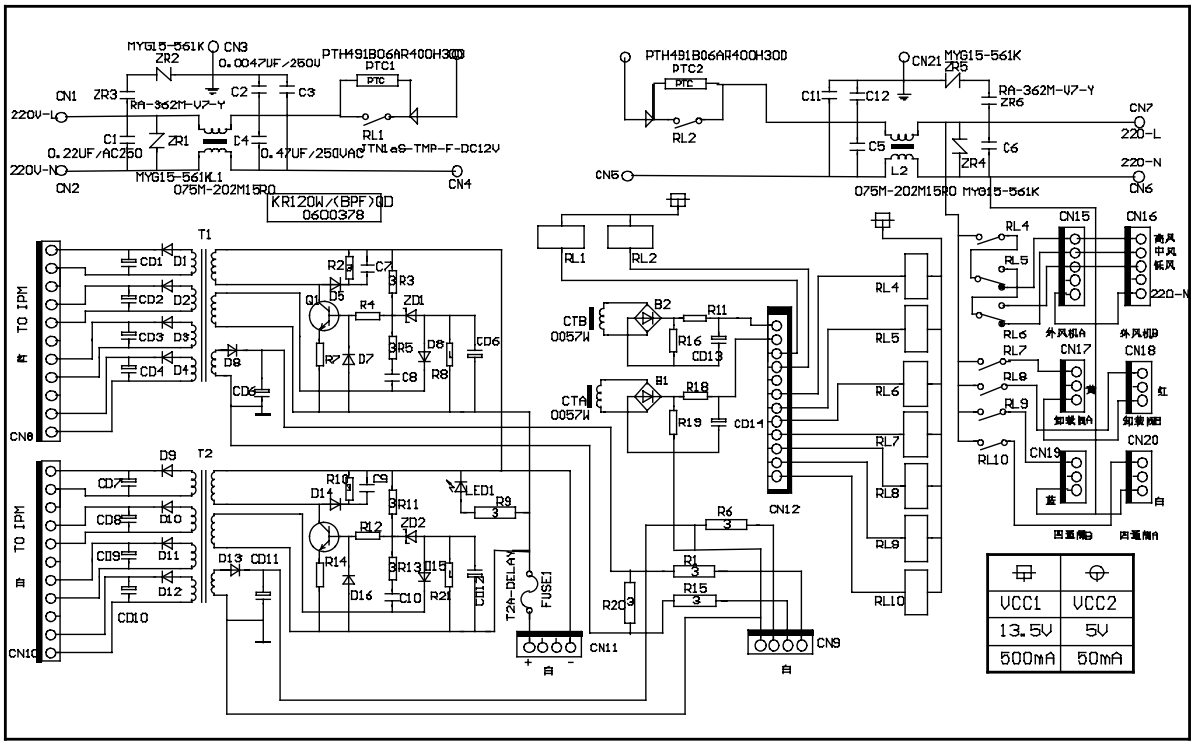
4.2.2 Outdoor unit

Model: AU422FIAHA /AU422FIAIA / AU422FIBIA

Control PCB schematic

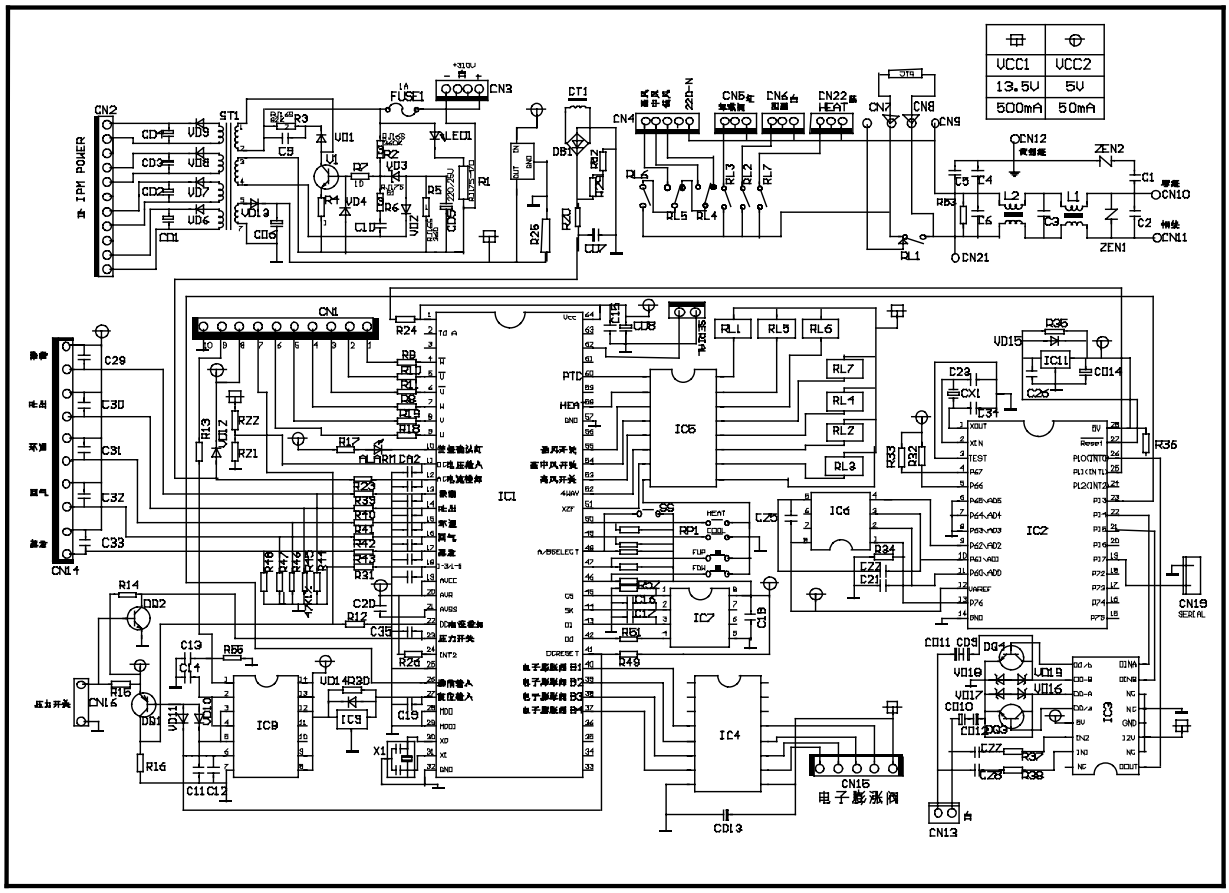


Power PCB schematic

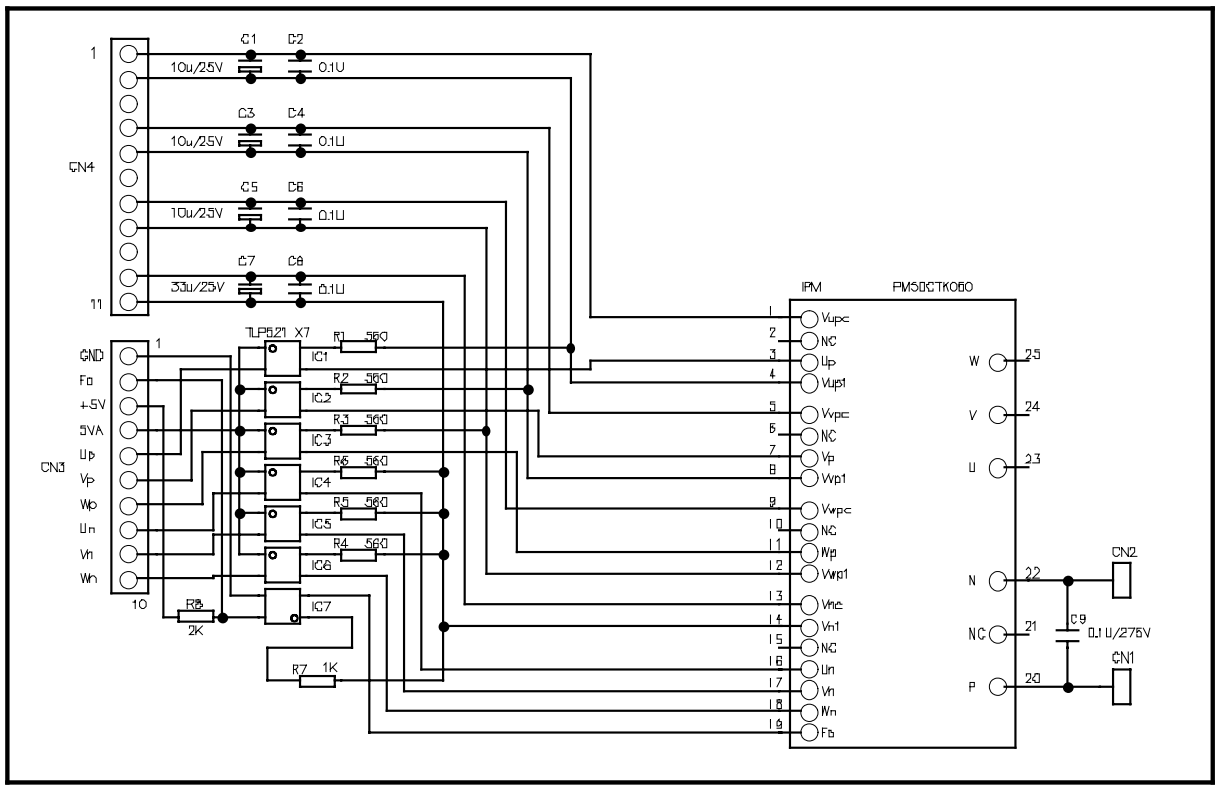


AU24FAAHA/AU242FHBHA

Control PCB schematic



Power PCB schematic



4.3 Resistance-Temperature character

Value of the heat sensitive resistance of defrosting, suction air, outdoor ambient temperature, evaporator, gas pipe and liquid pipe.

Temperature (℃)	Resistance value (kΩ)	Temperature (℃)	Resistance value (kΩ)
-10	53.0	40	5.5
-5	41.2	45	4.6
0	31.9	50	3.8
5	23.9	55	3.2
10	18.9	60	2.7
15	15.5	65	2.3
20	12.3	70	1.9
25	9.9	75	1.7
30	8.1	80	1.4
35	6.6	85	1.2

Value of the air discharge heat sensitive resistance

Temperature (℃)	Resistance value (kΩ)	Temperature (℃)	Resistance value (kΩ)
15	878.5	85	41.5
20	621.4	90	34.8
25	599.9	95	29.6
30	398.6	100	25.0
40	246.4	105	21.7
50	160.4	110	18.7
60	105.3	115	16.0
70	72.1	120	13.8
75	59.5	125	11.9
80	49.3	130	10.3

Value of the indoor ambient temperature heat sensitive resistance

Temperature (℃)	Resistance value (kΩ)	Temperature (℃)	Resistance value (kΩ)
15	37.5	23	25.3
16	35.7	24	24.1
17	33.9	25	23.0
18	32.2	26	22.0
19	30.7	27	21.0
20	29.2	28	20.0
21	27.9	29	19.1
22	26.5	30	18.2

6 ELECTRICAL CONTROL FUNCTIONS

6.1 Indoor unit NO. Setting method

6.1.1 In order to control all indoor units of H-MRV systems, the indoor units number should be set after installation work. We have two ways to set indoor unit number according to indoor unit type. Normally the infrared remote control types use special remote controller to do indoor unit number setting, the wired types use dialing switch (on indoor unit PCB) to do indoor unit number setting. The details is as follows :

No.	Model	Type	Refrigerant	Remote controller	Address setting	Remark
1	AU422FIAHA	Outdoor	R22	/	/	with lock switch
2	AU422FIAIA	Outdoor	R22	/	/	with lock switch
3	AU422FIBIA	Outdoor	R407C	/	/	with lock switch
4	AU242FHAHA	Outdoor	R22	/	/	without lock switch
5	AU242FHBHA	Outdoor	R407C	/	/	without lock switch
6	AB092FCBHA	Indoor	R407C	Wireless	Special remote controller	/
7	AB142FCBHA	Indoor	R407C	Wireless	Special remote controller	/
8	AB182FCAHA	Indoor	R22	Wireless	Special remote controller	/
9	AB182FCBHA	Indoor	R407C	Wireless	Special remote controller	/
10	AC142FCBHA	Indoor	R407C	Wireless	Special remote controller	/
11	AC182FCAHA	Indoor	R22	Wireless	Special remote controller	/
12	AC182FCBHA	Indoor	R407C	Wireless	Special remote controller	/
13	AD142FCBHA	Indoor	R407C	Wired	Dialing switch	/
14	AD182FCBHA	Indoor	R407C	Wired	Dialing switch	/
15	AE092FCAHA	Indoor	R22	Wired	Dialing switch	/
16	AE092FCBHA	Indoor	R407C	Wired	Dialing switch	/
17	AE112FCBIA	Indoor	R407C	Wired	Dialing switch	/
18	AE182FCAHA	Indoor	R22	Wired	Dialing switch	/
19	AE182FCBHA	Indoor	R407C	Wired	Dialing switch	/
20	AE182FCBIA	Indoor	R407C	Wired	Dialing switch	/
21	AF092FCBHA	Indoor	R407C	Wireless	Special remote controller	/
22	AF122FCBHA	Indoor	R407C	Wireless	Special remote controller	/
23	AP182FAAHA	Indoor	R22	Wireless	Special remote controller	/
24	AP182FABHA	Indoor	R407C	Wireless	Special remote controller	/
25	AS092FMAHA	Indoor	R22	Wireless	Special remote controller	/
26	AS092FMBHA	Indoor	R407C	Wireless	Special remote controller	/
27	AS182FTAHA	Indoor	R22	Wireless	Special remote controller	/
28	AS182FTBHA	Indoor	R407C	Wireless	Special remote controller	/

6.1.2 Function of special remote controller (Adress setting)

1. Read function symbol
   Press "read" button , "1" flashes 1 time

2. Signal emitting symbol
   when "2" flashes ,it shows that remote controller is giving signal to indoor unit.

3. Indoor unit number
   press "8"button to select indoor unit number (1,2,3,4,5or6), then "3" flashes continuously ,press "7" to set indoor unit number

4. Button locked symbol
When "9" is on the state of " ↗",press "10"button , "4" appears to show other buttons are locked .press "10"again to cancel

5 Code symbol
press "9"button to select code type , When "5" is on the state of "↘" ,the emitting code to indoor unit is for product made in 1998.

6 Read button
Press this button to give indoor unit signal , the power LED flashes to show indoor unit number.

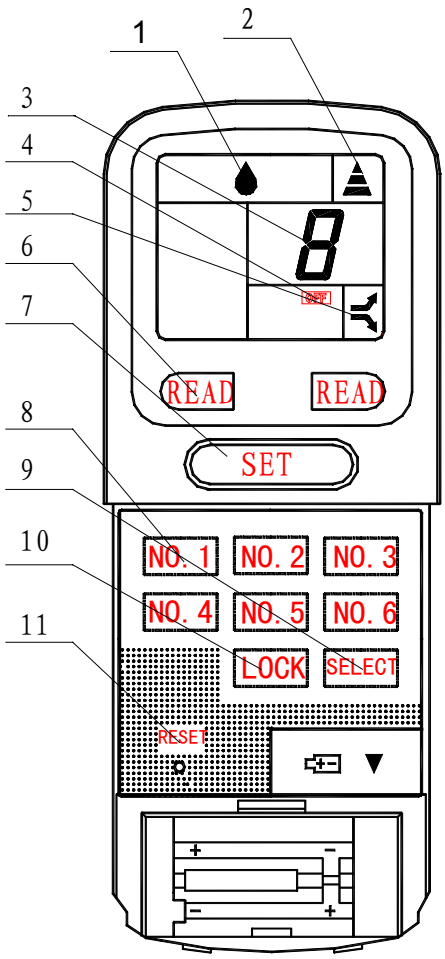
7 Indoor unit number setting button
When "3" is continuously flashes ,Press this button and give signal to indoor unit to set the number selected.

8 Indoor unit number selection button
use these 6 buttons to select indoor unit number to be set

9 Code selection button
Use this button to select emitting code type
Normally "5" is on the state of "↗".

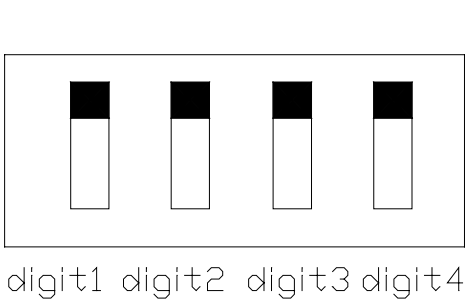
10 Lock button
Press this button , "4"appears ,the other buttons will be locked

11 Reset Button
When the remote controller is abnormal , press this button with pointed things to reset.

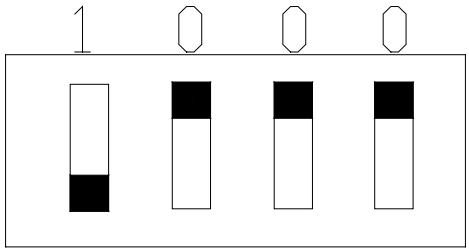


6.1.3 Number setting dialing switch using method(wired remoted control type)

The dialing switch is on indoor unit PCB. The indoor unit number setting method is as follows:



stand for NO.1 indoor unit

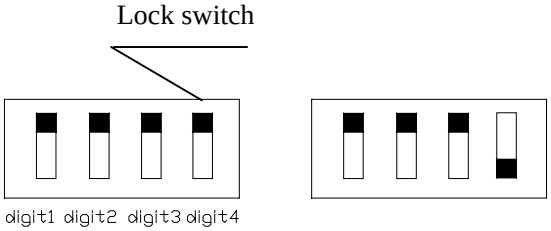


stand for NO.2 indoor unit

Digit 1	Digit 2	Digit 3	Digit 4	Unit number stand for
0	0	0	Not used	1
1	0	0	Not used	2
0	1	0	Not used	3
1	1	0	Not used	4
0	0	1	Not used	5
1	0	1	Not used	6

7.1.4 Indoor unit NO. lock switch (for model AU422FIAHA,AU422FIAIA, AU422F I B H A)

We have " indoor unit NO. lock switch" on outdoor PCB to lock the indoor unit setting NO.

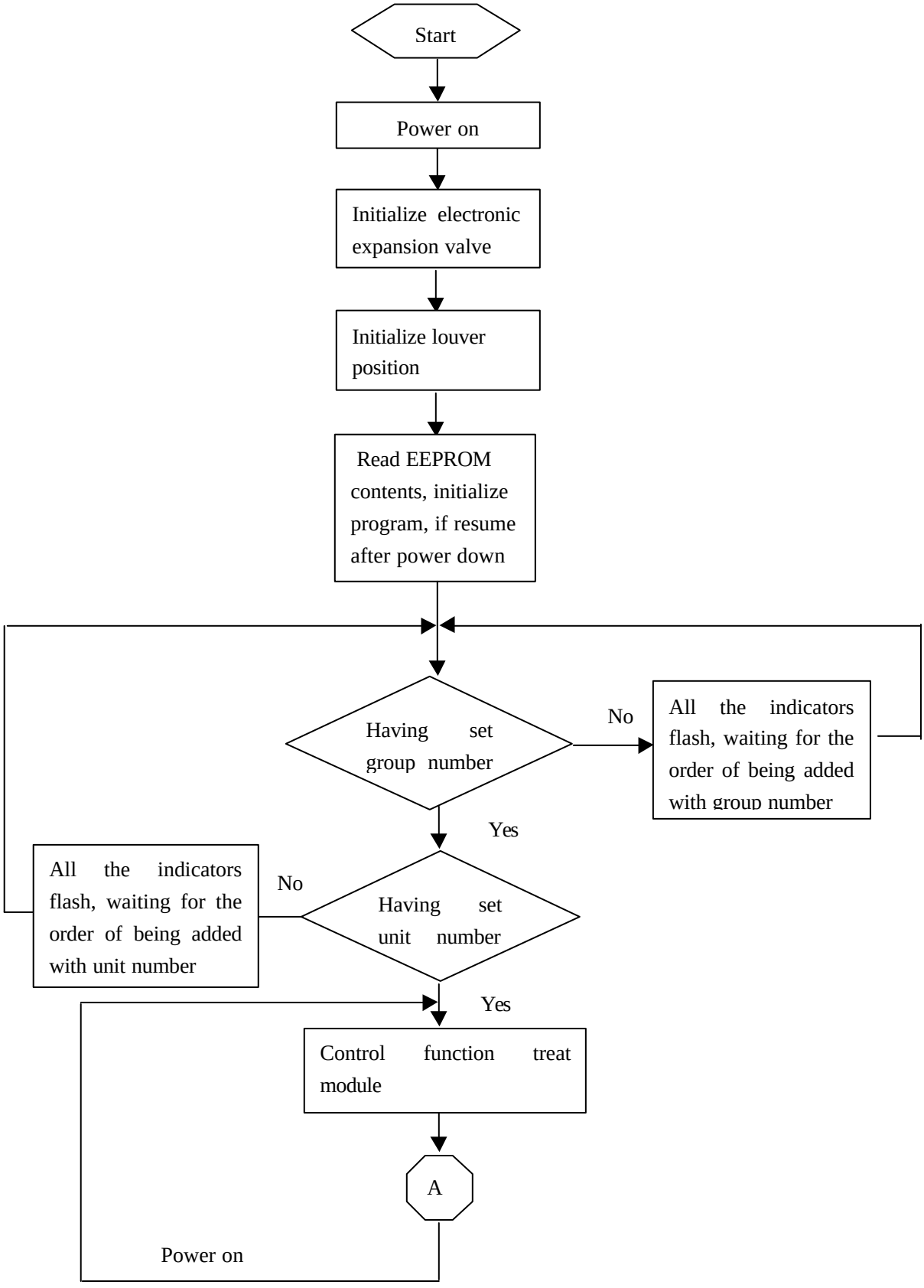


Unlock state lock state

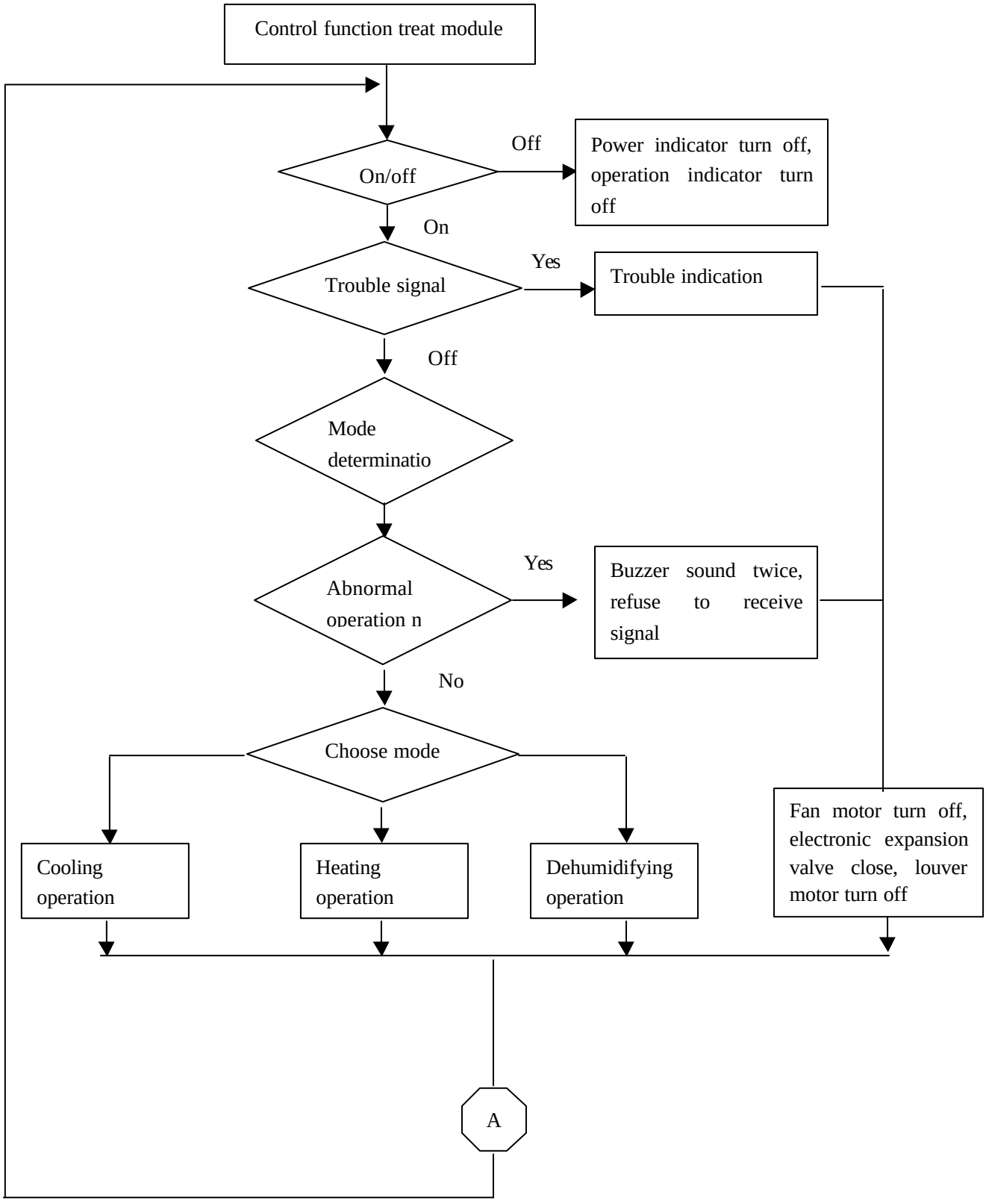
When the lock switch is at lock state, changing or setting indoor unit NO. is not allowed . When the lock switch is at unlock state, the outdoor unit will searching for the new added indoor unit. If the lock switch is always at unlock state, the outdoor unit will work normally and just have a longer communication time with the indoor unit. When you want to change the indoor unit NO. setting or you are installing the unit ,you must set the lock switch at unlock state .

6.2 Flow Chart for Operation

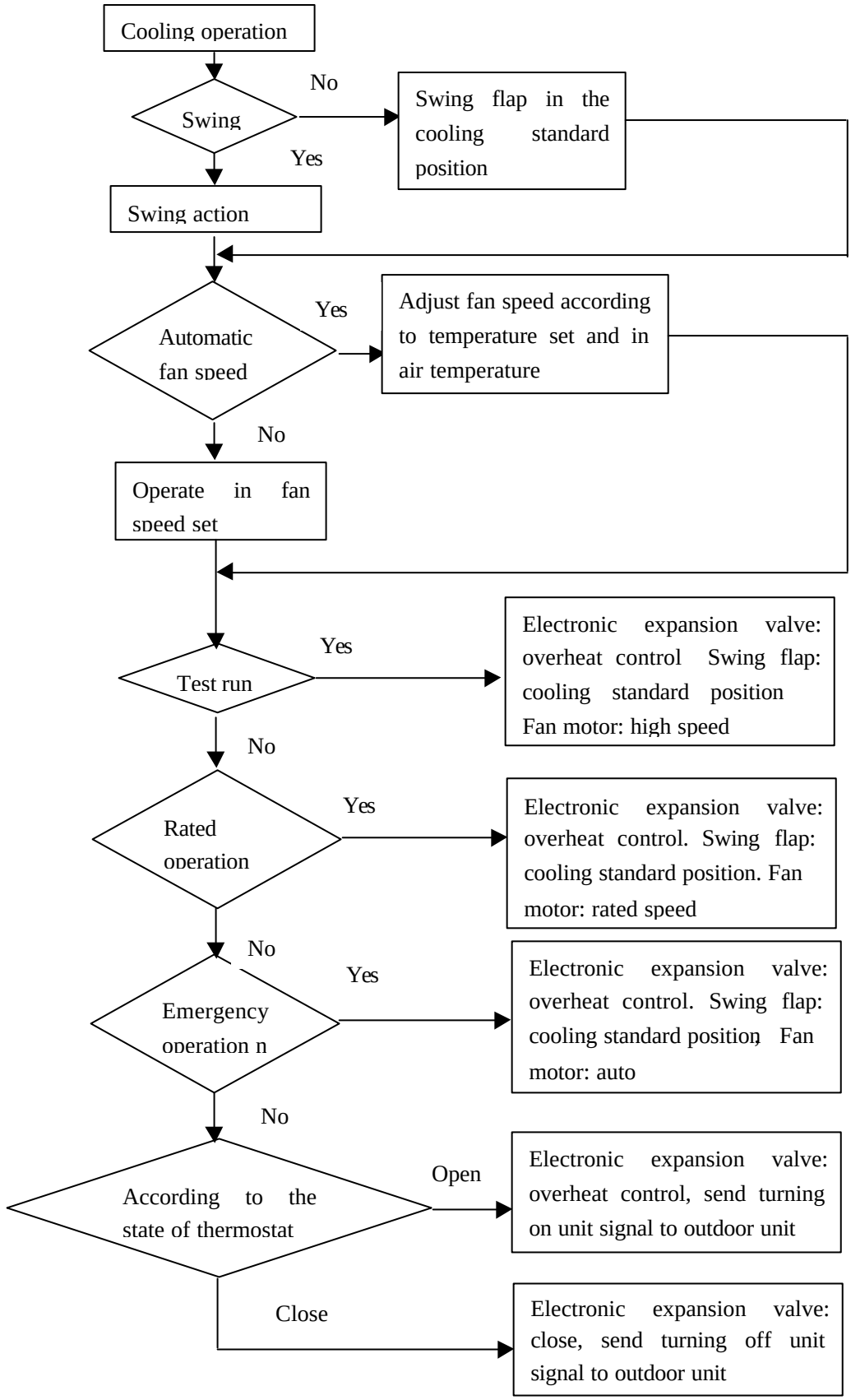
(1) Unit number setting


Start
Power on
Initialize electronic expansion valve
Initialize louver position
Read EEPROM contents, initialize program, if resume after power down
Having set group number
No
All the indicators flash, waiting for the order of being added with group number
Yes
Having set unit number
No
All the indicators flash, waiting for the order of being added with unit number
Yes
Control function treat module
A
Power on

(2) Turn on/off unit



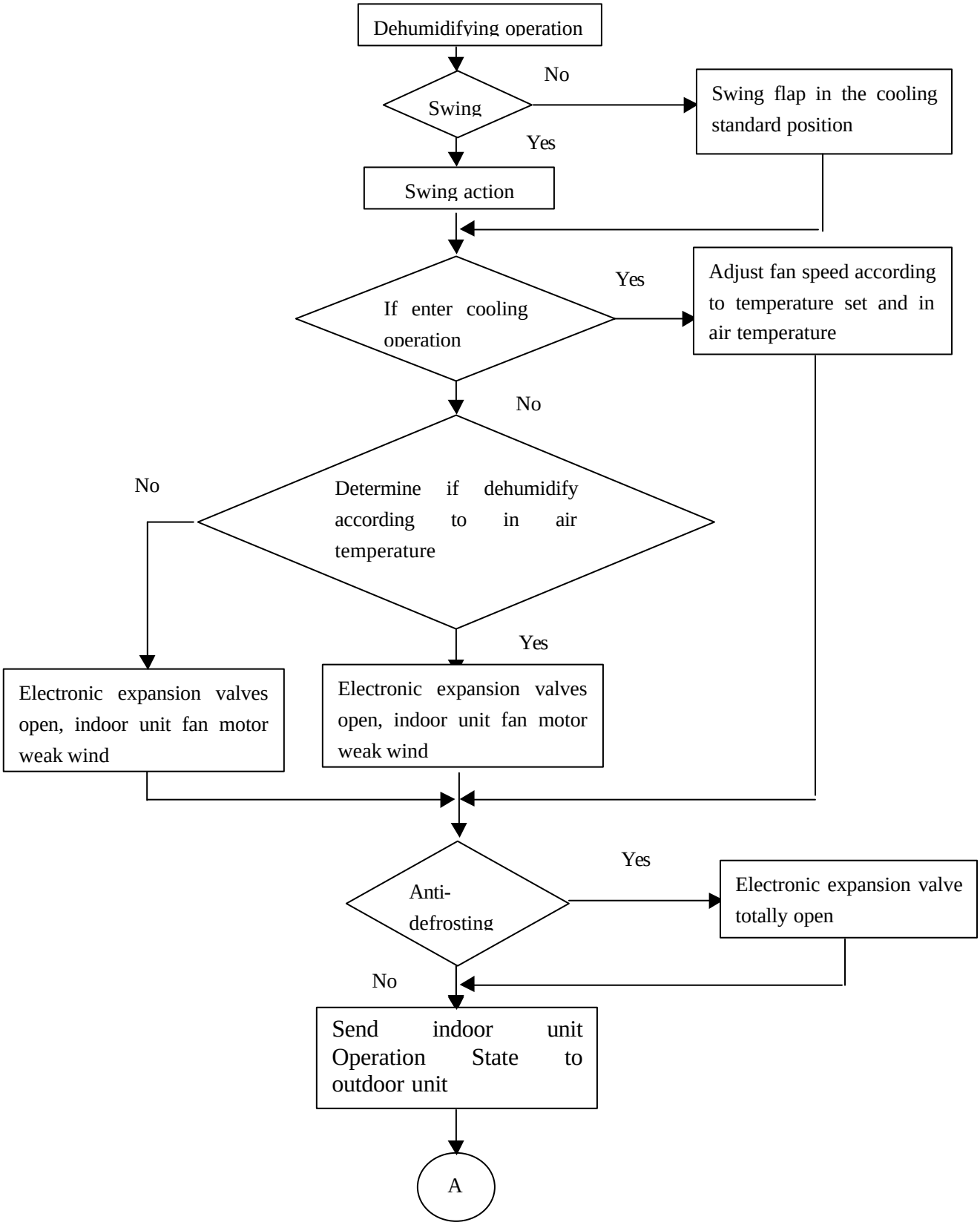
(3) Cooling operation


Cooling operation
Swing
No
Swing flap in the cooling standard position
Yes
Swing action
Automatic fan speed
Yes
Adjust fan speed according to temperature set and in air temperature
No
Operate in fan speed set
Test run
Yes
Electronic expansion valve: overheat control Swing flap: cooling standard position Fan motor: high speed
No
Rated operation
Yes
Electronic expansion valve: overheat control. Swing flap: cooling standard position. Fan motor: rated speed
No
Emergency operation n
Yes
Electronic expansion valve: overheat control. Swing flap: cooling standard position, Fan motor: auto
No
According to the state of thermostat
Open
Electronic expansion valve: overheat control, send turning on unit signal to outdoor unit
Close
Electronic expansion valve: close, send turning off unit signal to outdoor unit

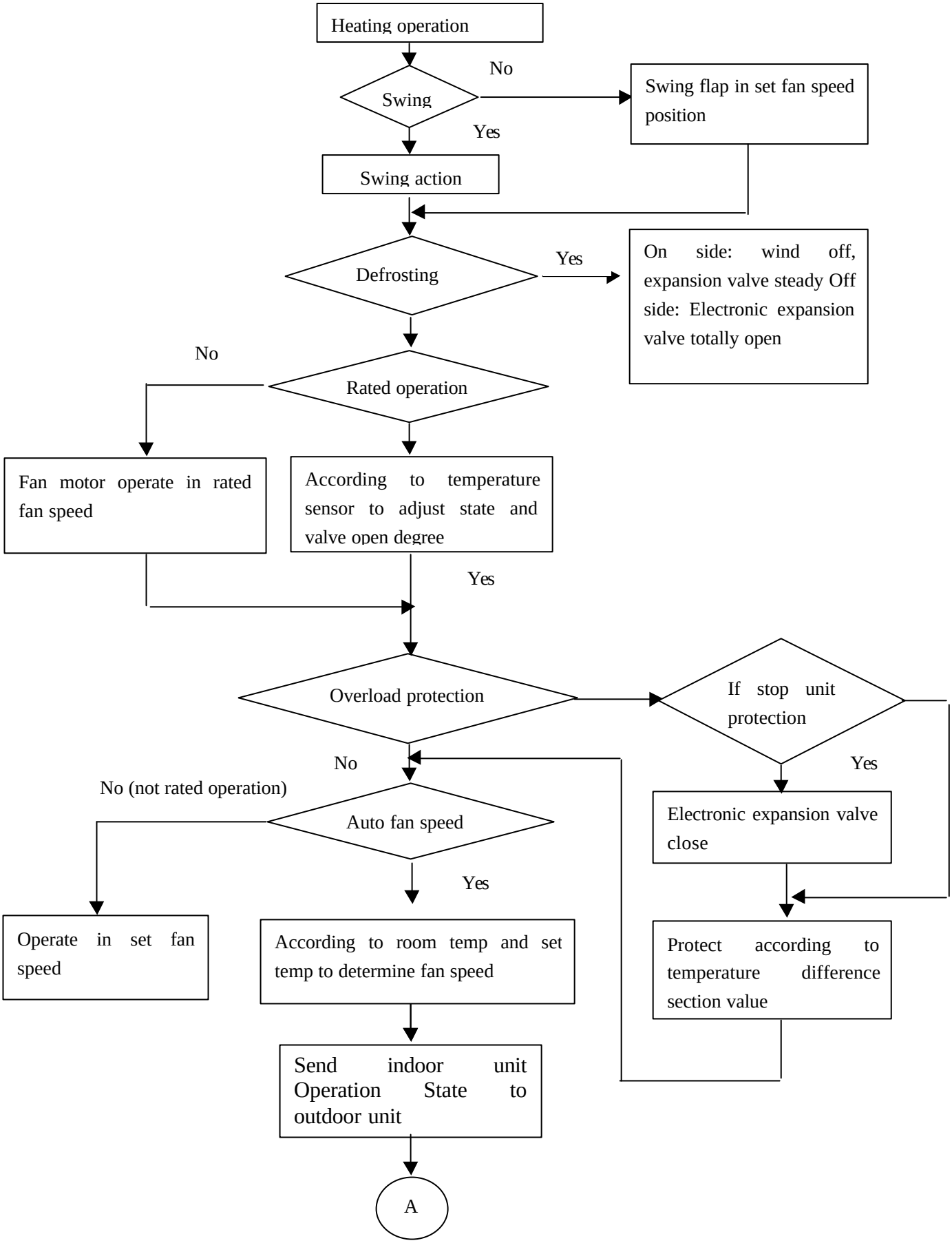
Note: 1. When abnormal phenomenon occur, the indoor unit indicator will indicate abnormality according to the abnormal parts.

2. When temperature of the evaporator inlet is lower than 0℃ and keeps for 5 minutes, unit will operate in anti-icing mode.

(4) Dehumidifying operation



(5) Heating operation



6.3 Defrost operation Flow Chart

1. The compressor operates heating over 25 minutes, after meeting the defrosting condition, it is permitted to enter defrosting. Defrosting process is unit-stop defrosting mode. Determining condition of defrosting is as follows:

Unit-stop defrosting:

(1) When outdoor ambient temperature is less than 2℃, (outdoor ambient temperature-defrosting sensor) is more than 9 , and keeping over 2 minutes, enter unit-stop defrosting.

(2) Outdoor ambient temperature >2℃, pipe coil temperature <15℃ enter unit-stop defrosting.

(3) If meeting the above condition, enter unit-stop defrosting.

(4) First the outdoor unit sends defrosting signal to indoor unit, after receiving signal, the indoor unit acts according to the following condition:
   a. The running fan motor of indoor unit for heating stops; the electronic expansion valve does not change.
   b. The running fan motor of indoor unit for turning off unit stops; the electronic expansion valves of indoor unit are totally open.

(5) The defrosting action of outdoor unit:
   a. The electronic expansion valves are totally open; compressor stops; 4-way valve keeps in heating state; fan motor of outdoor unit is turned off.
   b. After 45 seconds, 4-way valve is closed; compressor operates in 58Hz frequency.
   c. After the compressor has operated in 58Hz for 30 seconds, it will operate in 120Hz. Only after 3 minutes have elapsed in defrosting state can it quit from this operation.

(6) The condition of quitting from defrosting:
   a. After entering defrosting for 3 minutes, test the temperature of defrosting sensor, continue for 1 minute over 12℃, then quit from defrosting.
   b. Or after continuously defrosting for over 9 minutes, then quit from defrosting.
   c. Discharging air pressure over 2MPaG (G stands for this pressure is piezometer pressure), defrosting over 1 minute.

(7) Actions of indoor & outdoor unit when quitting from defrosting:
   a. Compressor stops 43 seconds, fan motor of outdoor unit enter set fan speed according to the state before entering defrosting.
   b. After stop 45 seconds, compressor starts, simultaneously 4-way valve enters heating.
   c. The open state of outdoors electronic expansion valve enters the state before entering defrosting.
   d. Indoor fan speed works in anti-cool Air State.
   e. The open state of indoors electronic expansion valve is controlled to start adjusting after defrosting 4 minutes.

(8) The protective treatment in defrosting:
   a. Pressure switch not protected
   b. The protective function of any temperature sensors is cancelled.
   c. After finishing defrosting, discharging air temperature and adjustment of expansion valve open state, current protection etc. work should be carried out according to the state when compressor is just turned on.

2. Compressor control

The compressor will start at 10Hz and running between 30Hz to 120Hz. In operation the compressor running frequency is determined by three elements : the number of indoor units in operation , the temperature difference of each indoor units between setting temperature and room temperature , the size of each indoor unit.

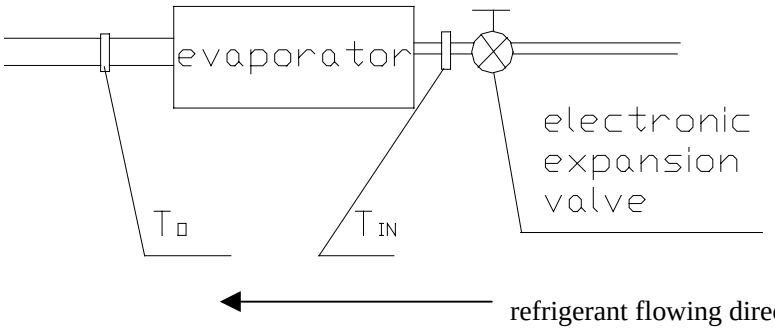
3. Outdoor fan motor speed control

(Ta: ambient temperature , Tp: outdoor unit pipe temperature)

ITEM	MODE	T_a	Tp	FAN SPEED
1	cooling	＞32℃		H
2	cooling	＜31℃	＞45℃	H
3	cooling	＜31℃	40℃＜T_p＜44℃	M
4	cooling	＜31℃	T_p＜39℃	L
5	heating	＞15℃		L
6	heating	10℃＜T_a＜14℃		M
7	heating	＜9℃		H

4 Electronic expansion valve control

Each indoor unit has a electronic expansion valve to control refrigerant volume. For split type indoor unit, the valve is designed in a electronic expansion valve box. Indoor unit PCB communicates with the electronic valve box PCB. For other type , the valve is in the indoor unit itself. The electronic expansion valve is controlled as follows:



Tin: stands for the liquid refrigerant temperature ; To: stands for the gas refrigerant temperature Tov: overheat temperature

Overheat temperature is preset in indoor unit PCB. In cooling mode operation ,indoor unit PCB can detect the current overheat temperature by calculating To-Tin.If the To-Tin temperature is higher than Tov, the valve volume will become larger until To-Tin= Tov. In heating operating ,outdoor PCB will control outdoor electronic valve accordingly.

5 All indoor units must operate in the same mode. If the compressor is in heating mode, the indoor unit is not allowed to be set in cooling mode, the outdoor unit will not accept different running mode from indoor unit.

7 DIAGNOSTIC INFORMATION (TROUBLE SHOOTING)

7.1 Fault Codes

In order to make repair and maintenance convenient, we set "Automatic troubleshooting" function in indoor unit and centralized controller. If any abnormal phenomenon occurs in operation, you can determine the trouble part and condition from the indicator light in indoor unit or the trouble code on the centralized controller.

Remote controller Timer and Operation indicator malfunction code

When the unit running, Timer indicator flash stand for indoor unit malfunction operation indicator flashing stand for outdoor unit malfunction：

1. Indoor unit malfunction

Timer indicator Flashing times	Indoor unit malfunction
Flashing once	The liquid tube temperature sensor is abnormal
Flashing twice	The gas tube temperature sensor is abnormal
Flashing 3 times	The environment temperature sensor is abnormal
Flashing 4 times	The communication with outdoor unit is abnormal
Flashing 5 times	The communication with the electronic expansion valve control board is abnormal
Flashing 6 times	The communication between indoor 846 and communication chip is abnormal
Flashing 8 times	PMV strong electricity board is abnormal
Flashing 10 times	Indoor unit PG fan motor is abnormal
Flashing 11 times	Indoor unit water overflow or float switch is abnormal
Flashing 12 times	Indoor unit EEPROM data is abnormal
Flashing 13 times	Indoor unit is overload
Flashing 14 times	The communication between indoor unit and wire remote controller is abnormal

2.Outdoor unit malfunction ：

Operation indicator flashing times	Outdoor unit Trouble contents
Flashing once	Outdoor unit defrost temp. sensor is abnormal
Flashing twice	Outdoor unit environment temp. sensor is abnormal
Flashing 3 times	Outdoor unit suction temperature sensor is abnormal
Flashing 4 times	Outdoor unit discharging temperature sensor is abnormal
Flashing 5 times	Outdoor unit evaporating temperature sensor is abnormal
Flashing 6 times	Outdoor unit AC over-current protection
Flashing 7 times	Outdoor unit DC voltage is insufficient protection
Flashing 9 times	IPM protection
Flashing 10 times	Outdoor unit EEPROM is abnormal
Flashing 11 times	Compressor discharging temperature overheat protection
Flashing 12 times	The communication between the 857&communication chip is abnormal
Flashing 13 times	Outdoor unit high pressure protection
Flashing 14 times	High pressure sensor PD is abnormal
Flashing 15 times	Low pressure sensor PS is abnormal

Indoor unit malfunction display code

Indoor unit malfunction	Display code
Float switch or water motor abnormal	E0
Outdoor unit abnormal	E1
Setting running mode is different with outdoor running mode	E2
Liquid temperature sensor is abnormal	E3
Gas temperature sensor is abnormal	E4
The communication between indoor 846 chip and communication chip is abnormal	E5
The communication with electronic expansion box is abnormal	E7
The communication between the wire remote controller and indoor unit control board is abnormal	E8
The communication between indoor and outdoor unit is abnormal	E9
Water temp. sensor is abnormal	EB

Outdoor unit malfunction display code

(When the wire remote controller display E1,can check the indoor unit control board LED1 or the outdoor unit control board LED1、Outdoor unit control board LED(ALARMA or ALARMB).

Outdoor unit malfunction	LED flashing times
Outdoor unit defrost temp. sensor is abnormal	flashing once
Outdoor unit environment temp. sensor is abnormal	flashing twice
Outdoor unit suction temp. sensor is abnormal	flashing 3 times
Outdoor unit discharge temp. sensor is abnormal	flashing 4times
Outdoor unit AC over-current protection	flashing 6times
Outdoor unit DC voltage is insufficient protection	flashing 7times
IPM protection	flashing 9times
Outdoor unit EEPROM abnormal	flashing 10times
Compressor Discharge temperature overheat protection	flashing 11times
The communication between outdoor unit 857 and communication chip is abnormal	flashing 12times
Outdoor unit system over-high pressure protection	flashing 13 times

10.2 AU48- diagnostic information and trouble shooting

The failure code is displayed on the outdoor PCB; please diagnose the trouble according to the following code:

Failure code	Failure position	Judgment measure
01	Outdoor defrosting temp. sensor TE circuit	Examine the sensor below 20H in cut circuit or over 1000H in short circuit for continuous 60 seconds, recoverable
02	Ambient temp. sensor TA circuit	Examine the sensor below 20H in cut circuit or over 1000H in short circuit for continuous 60 seconds, recoverable
03	Suction temp. sensor TS circuit	Examine the sensor below 20H in cut circuit or over 1000H in short circuit for continuous 60 seconds, recoverable
04	Discharge temp. sensor TD circuit	Examine the sensor below 20H in cut circuit or over 1000H in short circuit for continuous 60 seconds after compressor working for 3 minutes, recoverable
05	Outdoor mid-condenser temp. sensor	Examine the sensor below 20H in cut circuit or over 1000H in short circuit for continuous 60 seconds, recoverable
06	Over current	Alarm over current failure, on exceeding current protection value C for 5 seconds. After occurrence 3 times in 30 minutes, failure code displays on the LED, unrecoverable
07	Current mutual inductance circuit	After closing compressor, the current of current mutual inductance is checked over 15A. when starting up the compressor, frequency is over 60HZ, and current is below 5A, recoverable
08	Inverter compressor built-in over-load protection circuit	Inverter compressor built-in over-load protector acts.
09	IPM protection	IPM over current、short current、temp. too high、lack of pressure protect alarm 3 times continuously in 30 minutes, unrecoverable
10	EEPROM on PCB faulty	857 reads and writes the data of EEPROM faulty, flashes 11 times, unrecoverable
11	Discharge temp. sensor protection acts (TD)	Examine TD1 sensor alarms compressor off after 5 seconds at over 120℃, confirming 3 times in 30minutes, and displaying 11 on the LED, unrecoverable
12	Pressure sensor （Pd、Ps） wiring faulty	After compressor starting up 3 minutes, examine compressor rate(Pd/Ps) is below 0.9 for continuous 60 seconds, recoverable
13	Pressure switch circuit	High pressure switch acts, trouble disappears after 2

		minutes normally
14	Low pressure protection acts （Ps）	Cooling: examine Ps below 0.2kgG/cm^2 for 30 seconds continuously after compressor starts up; Heating: examine Ps below -0.2kgG/cm^2 for 10 minutes continuously after compressor starts up; recoverable
15	High pressure protection acts （Pd）	Examine sensor Pd over 27.5kgG/cm^2
16	Suction temp. protection acts （TS）	On compressor working, for continuous 10 minutes, examine sensor TS over 40℃, recover after 2 minutes.
17	High pressure sensor Pd circuit	For continuous 60 seconds, examine sensor Pd can automatically run in support.
18	Low pressure sensor Ps circuit	For continuous 60 seconds, examine sensor Ps below -0.95kgG/cm^2 or on inverter compressor running individually ,when performance frequency is below S3, examine sensor Ps is over 9kgG/cm^2, can automatically run in support.
19	At low frequency, discharging temp. protection acts（TD）	When inverter compressor performance frequency is S3,S4, examine sensor TD1 is over 110℃
20	857 receive 846 communication faulty	Continuous communication 200 seconds invalid, alarms flashes.
21	846 receive 857 communication faulty	Continuous communication 200 seconds invalid, alarms on LED
22	846 receive indoor unit failure	Can not receive any signal from indoor unit for 4 minutes, alarms 22 on LED
23	846EEPROM/857EEPROM failure	Alarms display on LED

7.2 Troubleshooting

(1) Indoor unit trouble indication: timer indicator flashes (once, twice, 3 times, 7 times)
Abnormal reasons:
Heat sensitive resister is short circuit or open circuit
The treatment to sensor output part in PC board is improper, such as poor contact of package part, the electrolytic capacitor for filtering is failed, etc.
Treatment:
Remove the heat sensitive resister, test and measure its numerical value. According to the resister temperature character table to evaluate if it is heat sensitive resister abnormal. If numerical value of resister is normal, check if it is poor contact. If contact is good, replace the indoor unit PC board.
(2) Outdoor unit trouble indication: timer indicator flashes (4 times)
Abnormal reasons:
Communication wire is open circuit or short circuit
There is powerful electromagnetic disturbing source near the air conditioner
The indoor & outdoor unit are not correctly set with unit number
The PC board is improper
Treatments: use the ohm grade of multimeter to check the numerical value of resister between communication wire to determine if it is short circuit or open circuit. If normal, examine if there is powerful electromagnetic disturbing source near the air conditioner, such as radio wave sending devices. After verifying there is no powerful disturbance near air conditioner, reset the unit number of indoor unit and outdoor unit. If there is still abnormal, change the PC board of the trouble indoor & outdoor unit. Please note that after changing the PC board of indoor & outdoor unit, they both should be reset their unit number.
(2) Indoor unit trouble indication: timer indicator flashes (5 times)
Abnormal reasons:
Communication wire is open circuit or short circuit
There is powerful electromagnetic disturbing source near the air conditioner
PC board is improper
Treatments: use the ohm grade of multimeter to check the numerical value of resister between communication wire to determine if it is short circuit or open circuit. If normal, examine if there is powerful electromagnetic disturbing source near the air conditioner, such as radio wave sending devices. After verifying there is no powerful disturbance near air conditioner, change the PC board of abnormal indoor unit or electronic expansion valve driver.
(3) Indoor unit trouble indication: timer indicator flashes (6 times)
Abnormal reasons:
PC board is improper
Treatment: change the improper PC board of indoor unit.
(4) Indoor unit trouble indication: timer indicator flashes (8 times)
Abnormal reasons:
The PC board of electronic expansion valve driver is improper
Treatment: change the PC board of electronic expansion valve driver.
(5) Indoor unit trouble indication: timer indicator flashes (10 times)
Abnormal reasons:
Plastic sealed motor is improper
PC board is improper

Treatment: use the DC voltage grade of multimeter to test the plastic sealed motor to find if there is any feedback signal, determine if the plastic sealed motor is abnormal. If normal, change the indoor unit PC board.

(6) Indoor unit trouble indication: Timer indicator flashes (12 times)

Abnormal reason:

Indoor unit PC board is improper

Treatment: change the improper indoor unit PC board.

(7) Indoor unit trouble indication: operation indicator flashes (once, twice, 3 times, 4 times, 5 times)

Abnormal reasons:

Heat sensitive resister is short circuit or open circuit

The treatment to sensor output part in PC board is improper, such as poor contact of package part, the electrolytic capacitor for filtering is failed, etc.

Treatment:

Remove the heat sensitive resister, test and measure its numerical value. According to the resister temperature character table to evaluate if it is heat sensitive resister abnormal. If numerical value of resister is normal, check if it is poor contact. If contact is good, replace the indoor unit PC board.

(8) Indoor unit trouble indication: operation indicator flashes (6 times)

Abnormal reasons:

Power voltage is low

Power is instantaneously stopped

Compressor is locked

Treatment: power on again to operate unit, check power voltage (Is the over 40A power used?)

(9) Indoor unit trouble indication: operation indicator flashes (7 times)

Abnormal reasons:

Power voltage is low

Power is instantaneously stopped

Treatment: Treatment: power on again to operate unit, check power voltage (Is the over 40A power used?), check if the power cord is too thin.

(11) Indoor unit trouble indication: operation indicator flashes (8 times)

Abnormal reasons:

The current mutual inductor on the outdoor unit PC board is failed

The driving circuit of compressor is disconnected

Treatment: power on again to operate unit. Test if there is current through the compressor driving circuit. If there is, change the PC board.

(12) Indoor unit trouble indication: operation indicator flashes (9 times)

Abnormal reasons:

High load compelling operation

Power voltage is low

Power is instantaneously lowered or power cut

The driving circuit of compressor is short circuit

Compressor is locked

Treatment: power on again to operate unit. Check if there is too much refrigerant in the cooling system? Check power voltage (Is over 40A power used?) check if there are parts in compressor driving circuit short-circuited? Check if there is any parts damage, poor contact, pull out the connection wire of power module UVW end, test if there is the same voltage between U-V, V-W, W-U? (AC80V-280V)

(13) Indoor unit trouble indication: operation indicator flashes (10 times)

Abnormal reason: PC board of outdoor unit is improper.

Treatment: change PC board of outdoor unit.

(14) Indoor unit trouble indication: operation indicator flashes (11 times)

Abnormal reasons:

System is high load compelling operated

Refrigerant leaks
Discharging air temperature heat sensitive resistor is improper
Electronic expansion valve or 2-way valve is closed

Treatment: check if there is leakage part, test system pressure in rated operation state to determine if there is leakage? Check the state of electronic expansion valve and 2-way valve. Test and measure the numerical value of discharging air temperature heat sensitive resister.

7.3 Example of repair

(1) Phenomenon: after changing the PC board of outdoor unit, do not reset. After powering on and turning on unit, some of the indoor units can operate normally, the other indoor units display “communication trouble with outdoor unit”

Treatment: switch the unit number lock switch of outdoor unit to unlocked state, after powering on, outdoor unit will examine indoor units and automatically enter indoor units’ unit number. After about 5 minutes, switch this switch to lock state. Restart indoor units, the trouble is solved.

(2) Phenomenon: indoor unit displays DC current protection

Treatment: check if power module is penetrated, after changing PC board, power on to restart unit, compressor operates several minutes then stops. The DC current protection still appears. Check the compressor driving circuit of, find the compressor down-lead is short circuit because of high temperature. After changing the compressor down lead, the trouble is solved.

(3) Phenomenon: after finishing installation of indoor unit, start unit to operate, find B system can operate normally, A system compressor does not work.

Treatment: when left factory, the indoor unit EEPROM was default set as joint in B system. After finishing installation, when set indoor unit number, because the unit number lock switch is always in unit number locked state, the outdoor unit will not examine indoor units. So the indoor units connected with A system can not change their default setting, their signals sent to outdoor unit are overlapped with the signals sent by indoor units of B system, which cause only B system works. After resetting indoor unit number complied with procedure, the trouble is solved.

(4) Phenomenon: when cooling, make A system work solely, find A system do not work, but B system work.

Treatment: after checking, find communication wire and pipe are wrongly connected. After connecting the wire correctly, reset unit number, the trouble is solved.

(5) Phenomenon: start 3 sets of indoor units in the same system, under the condition of compressor current and discharging air temperature are not too high, the operation frequency is low. After compressor operates, some indoor units “operation” indicators still do not light.

Treatment: it is because when setting the unit number of each indoor unit, the time interval is too short, which causes the unit numbers are set repeatedly. After resetting the indoor unit number, the trouble is solved.

8 INSTALLATION

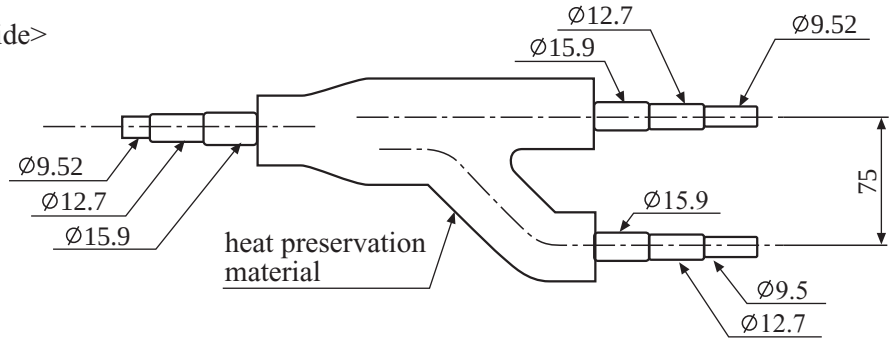
8.1 Piping dimensions chart

Model	Liquid pipe		Gas pipe	
	mm	inch	mm	inch
AU42	9.52	3/8”	15.88	5/8”
AU24	9.52	3/8”	15.88	5/8”
AB09	6.35	1/4”	9.52	3/8”
AB14	6.35	1/4”	12.7	1/2”
AB18	9.52	3/8”	15.88	5/8”
AC14	9.52	3/8”	15.88	5/8”
AC18	9.52	3/8”	15.88	5/8”
AD14	9.52	3/8”	15.88	5/8”
AD18	9.52	3/8”	15.88	5/8”
AE09	6.35	1/4”	9.52	3/8”
AE11 (TES)	6.35	1/4”	12.7	1/2”
AE18	9.52	3/8”	15.88	5/8”
AE18 (TES)	9.52	3/8”	15.88	5/8”
AF09	6.35	1/4”	12.7	1/2”
AF12	6.35	1/4”	12.7	1/2”
AP18	9.52	3/8”	15.88	5/8”
AS09	6.35	1/4”	12.7	1/2”
AS18	9.52	3/8”	15.88	5/8”

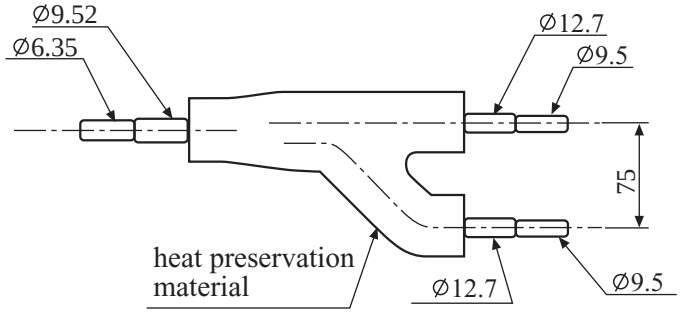
8.2 Y-shape manifold pipe

model: FQG-B120

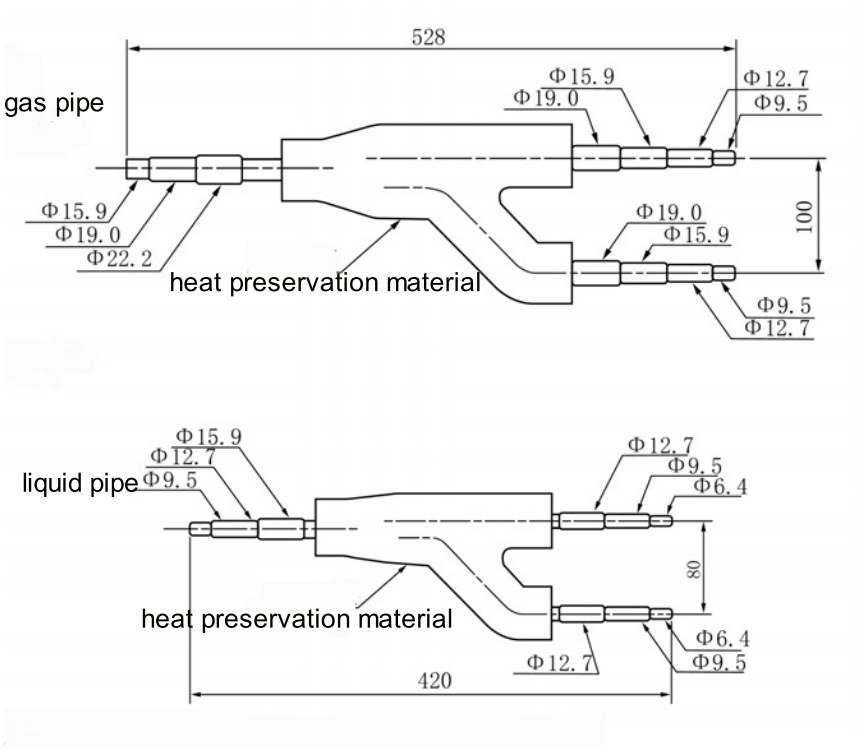
<gas side>



<liquid side>



Dimension is the out diameter connecting to the tubing.



Refrigerant pipes between manifold pipes

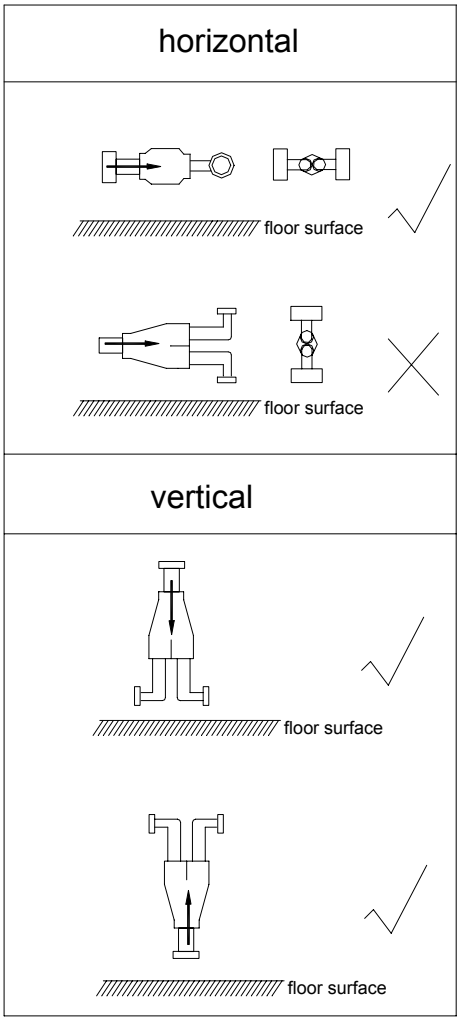
Total refrigerating amount of indoor unit group after the manifold pipe	Gas side	Liquid side
Less than 38220Btu/h	15.9	9.52
38220~61157Btu/h	19.05	9.52
61157~126137Btu/h	25.4	12.7

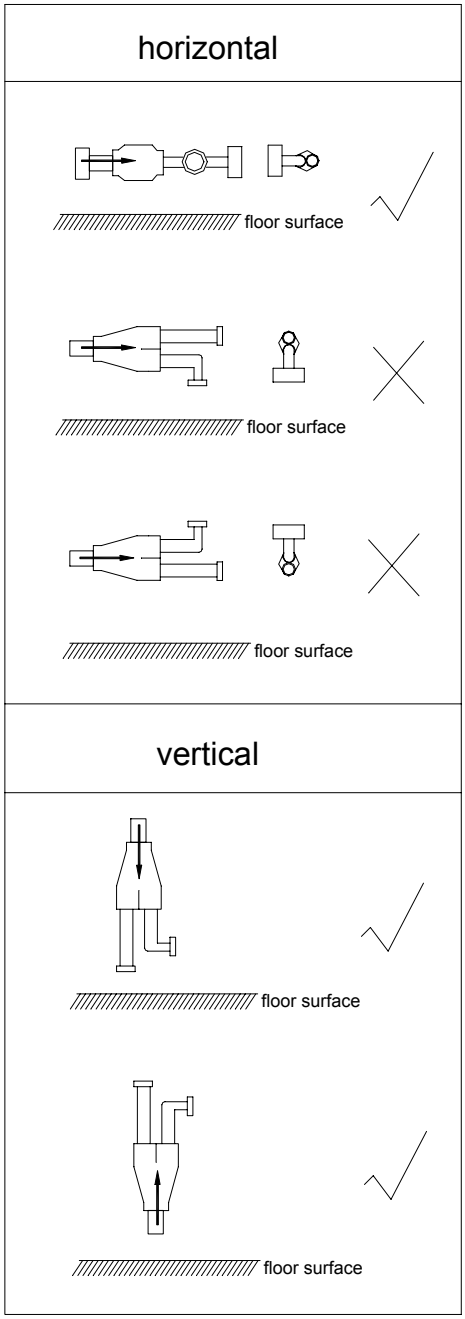
Note: 1. Y-shape manifold pipe can be placed in horizontal or vertical direction

2. The manifold pipes must be welded with hard-solder

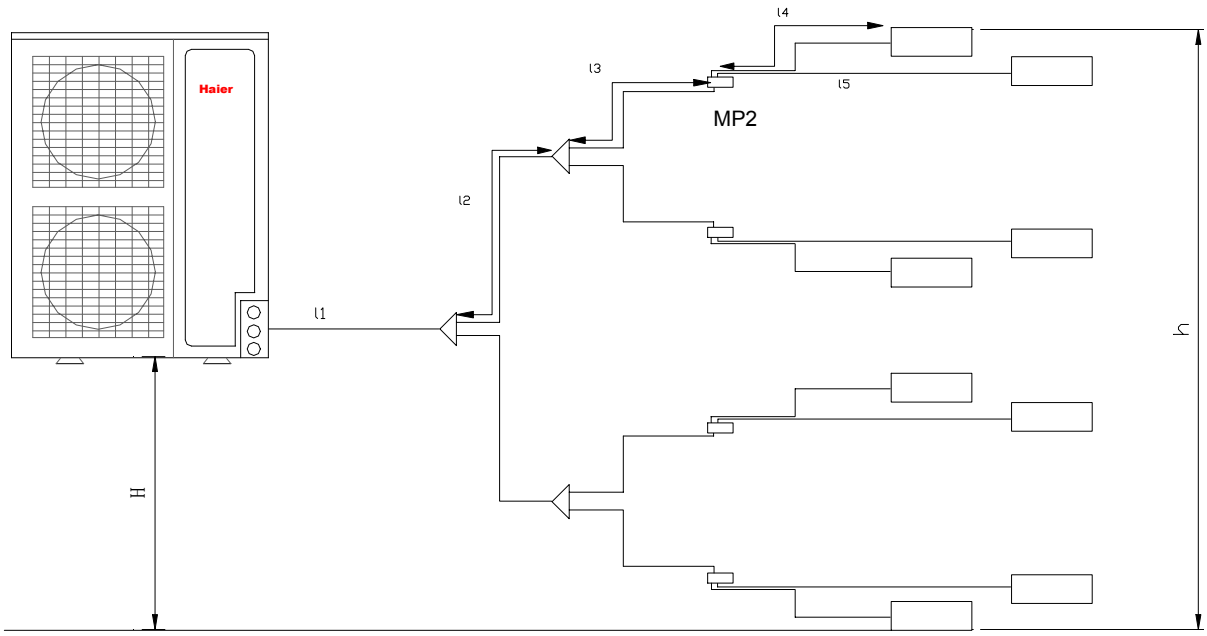
3. Pay attention to cut off the unnecessary part from its middle parts of each joint, and to remove burr.

In the file, the figure marked with " √ " is permitted, and the figure marked with "×" is prohibited.
You can confirm the position according to the actual condition.
The refrigerant flow direction is always from the collective side to the divided side.





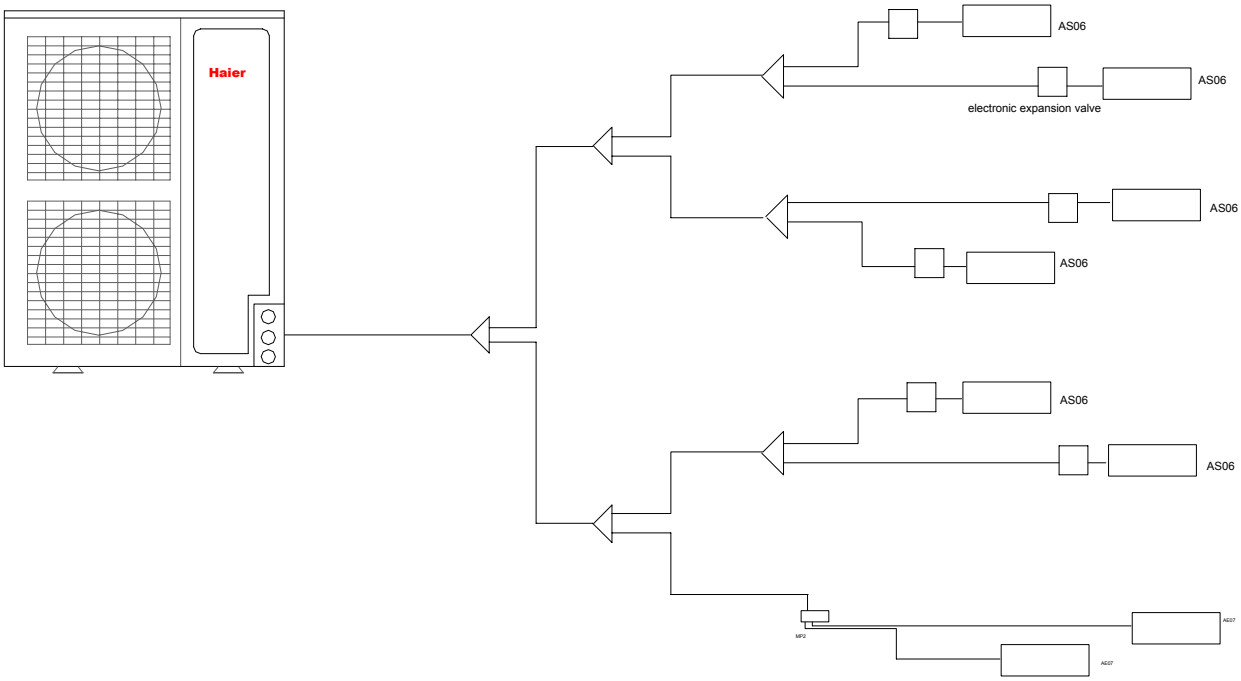
8.3 Piping length and drop between units (AU48-)



1) When connected with 8 units,indoor units refer to <admissible combination examples>
2) Total length=l1+l2*2+l3*4+l4*4+l5*4<=100m
3) Max. piping length =(l1+l2+l3+l5)<=70m
4) Max. piping length between the indoor unit and the first branch pipe<=30m
5) Max. drop between outdoor unit and indoor unit: H<=30m(indoor above outdoor);H<=20m(indoor below outdoor)
6) Max. drop between the two indoor units : h<=10m
7) Expansion valve is less than 10mm to its corresponding indoor unit
8) Only wall mounted types are connected with expansion valves.
9) The expansion valves of different indoor models are different.
10)The first branch pipe must use FQG-180,the others use less than it.

Combination example:(AU48-)

8 by 1:



NOTE:

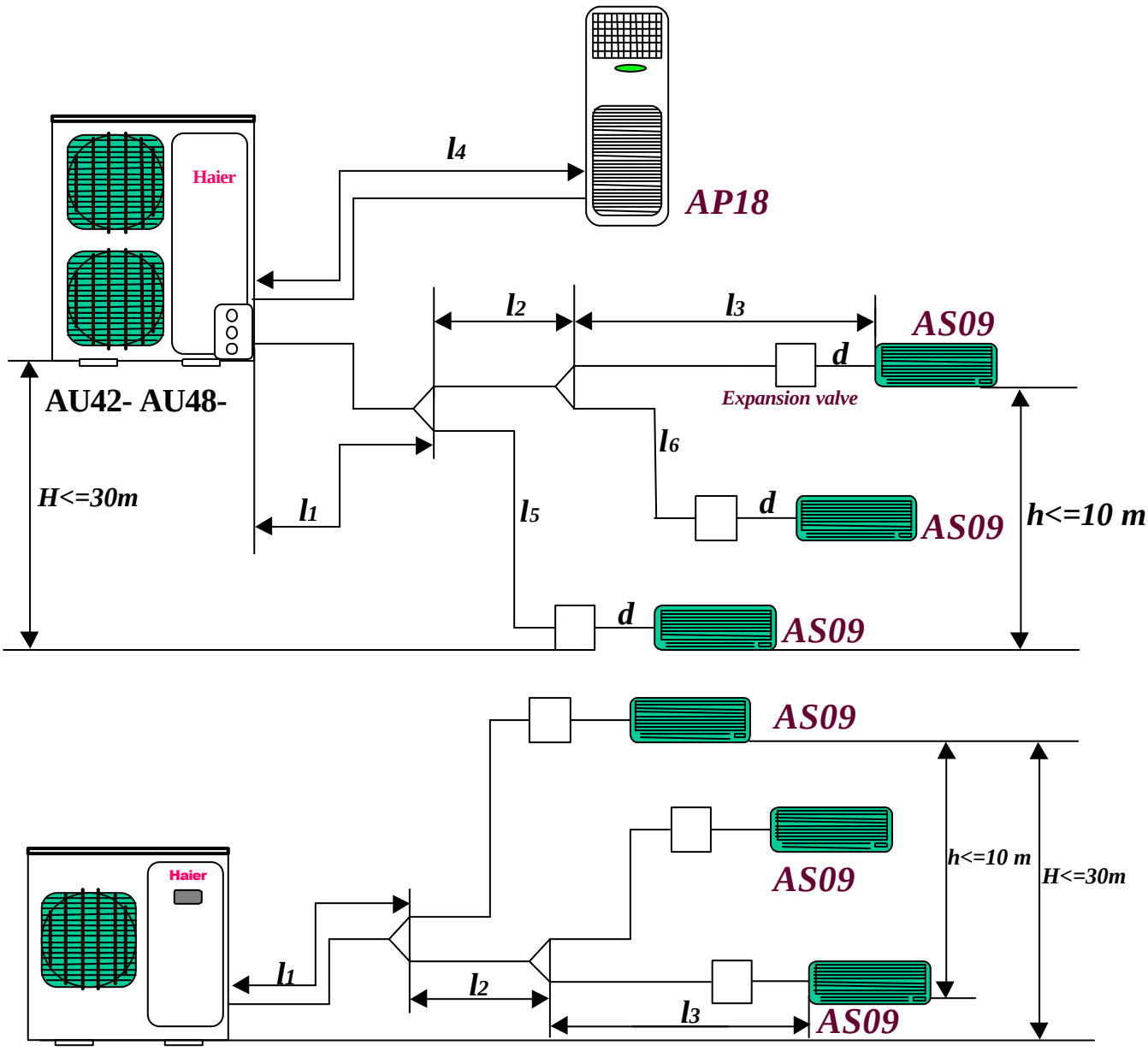
1.When AU48 unit is connected with 8 indoor units, pay attention that the total capacity of indoor units must not exceed 130% of outdoor cooling capacity.

2.Wall-mounted type can not be connected with 8 units by the outdoor unit. But you can refer to the above combination example.

3.when outdoor unit connects with 6 wall-mounted units and 2 ceiling concealed units, please set address of wall-mounted type with the address-setting remote controller, and their address numbers are from 1 to 6, then please set address of ceiling concealed type with dialing switches, address number 7 and 8.

4.when outdoor unit connects with 8 units according to <admissible combination example>(except for the No.3 example), please set address of the anterior 6 indoor units with the address-setting remote controller, and then set address of the latter 2 indoor units with dialing switches.

8.3 Piping length and drop between the units



*1) Total length=l1+l2+l3+l4+l5+l6+2*d<=100m*

2) Max. piping length of single system=(l1+l2+l3)or(l4)<=50m

3) d<=15m

4) Max. drop between outdoor unit and indoor unit: H<=30m

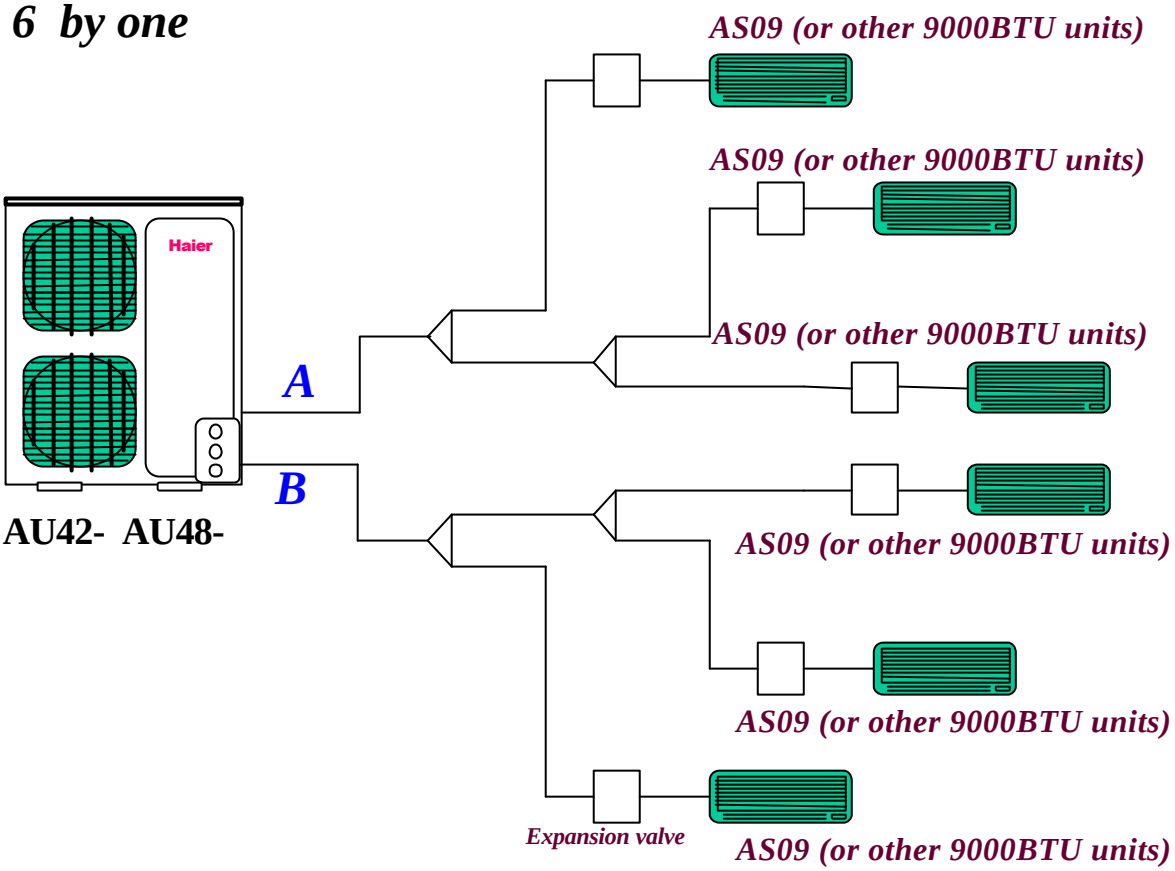
5) Max. drop between the two units in the same system: h<=10m

6) Max. connect capacity of one system=27300BTU/h (5HP)

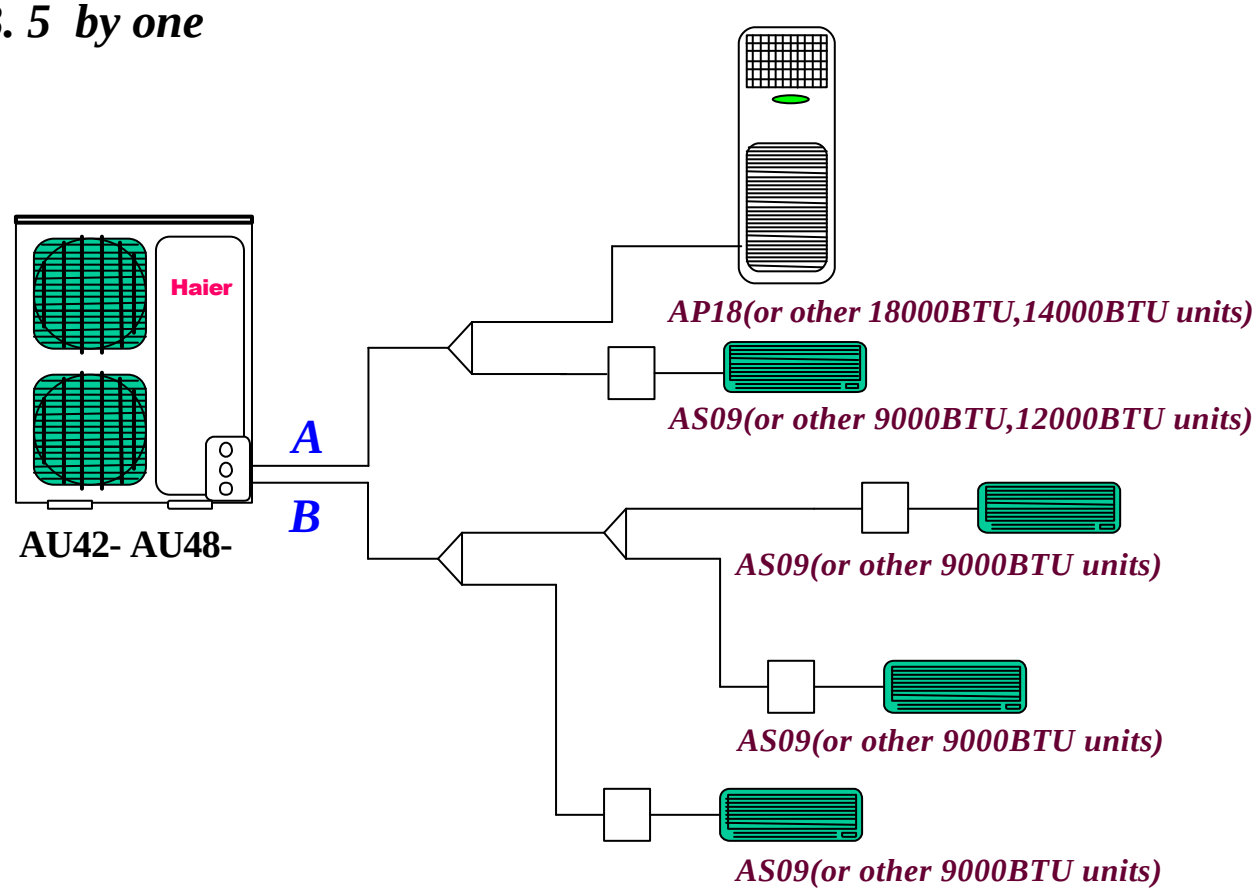
7) Only wall mounted types are connected with expansion valves. The expansion valves of different indoor models are different.

8.4 Combination examples

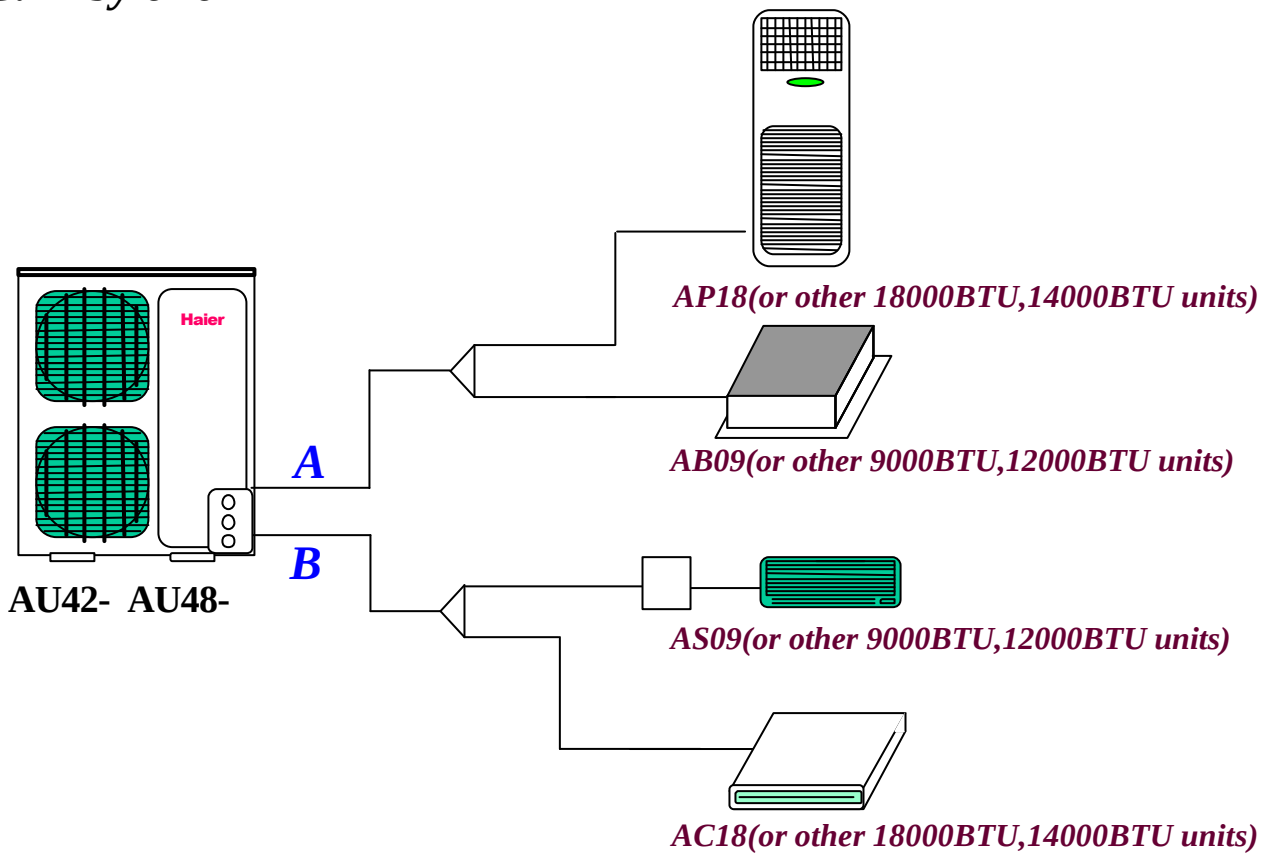
A. 6 by one



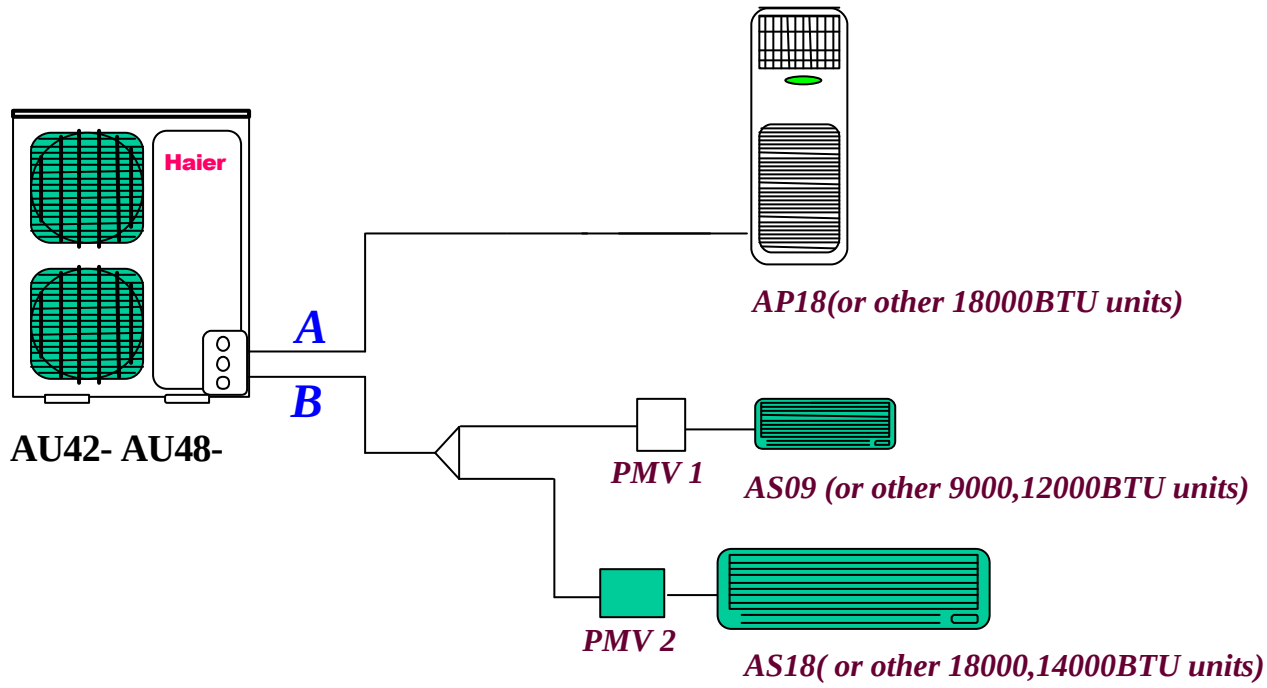
B. 5 by one



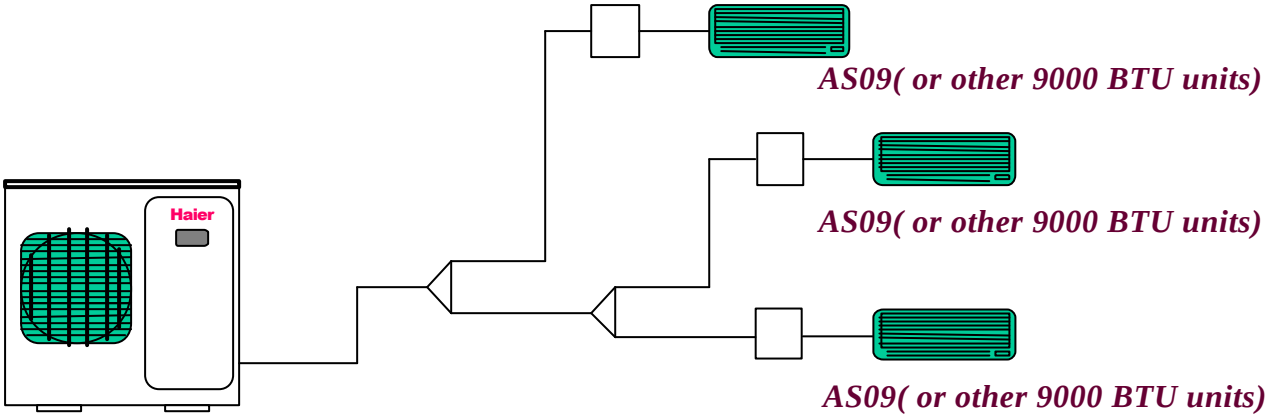
C. 4 by one



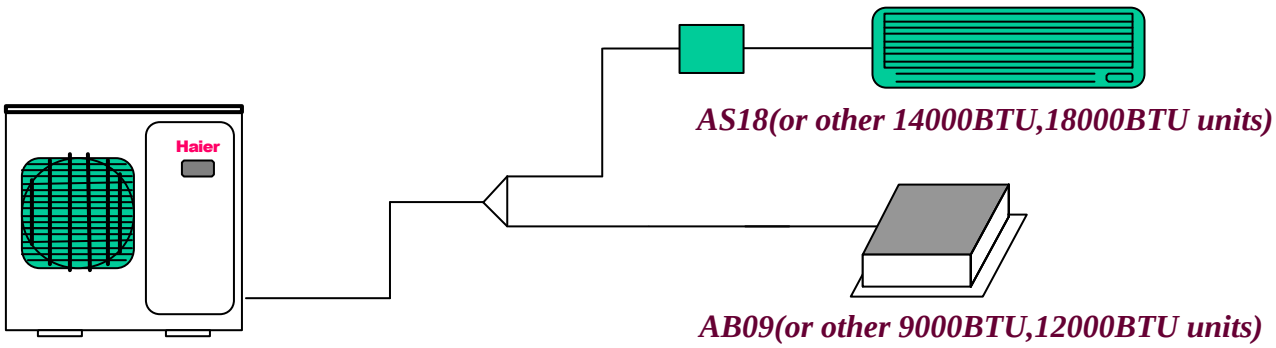
D. 3 by one



E. 3 by one

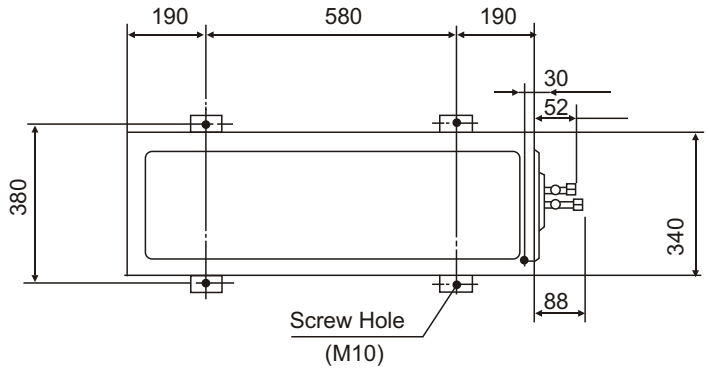


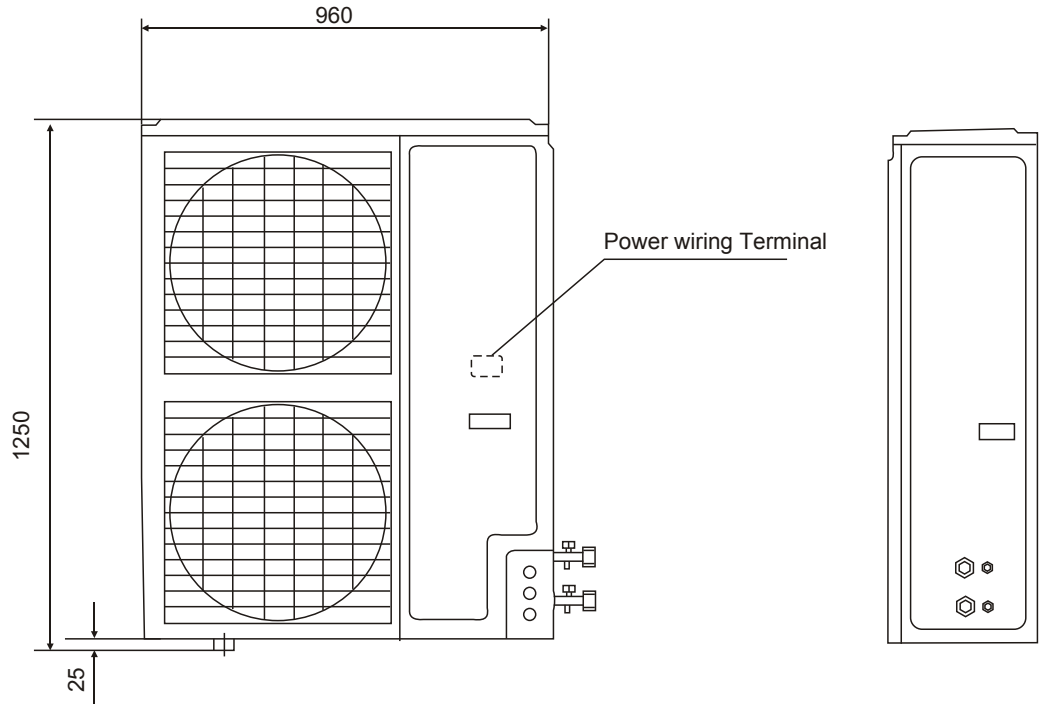
F. 2 by one

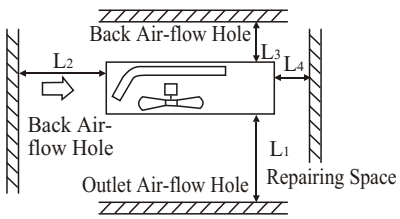


8.5 Installation dimensions

A. model: AU42- ***AU48-







Installation Servicing Space(at Least)

Unit:mm

Dimension \ Installation	I	II	III
L_1	Leave space	Leave space	500
L_2	300	0	Leave space
L_3	100	150	100
L_4	0	0	0

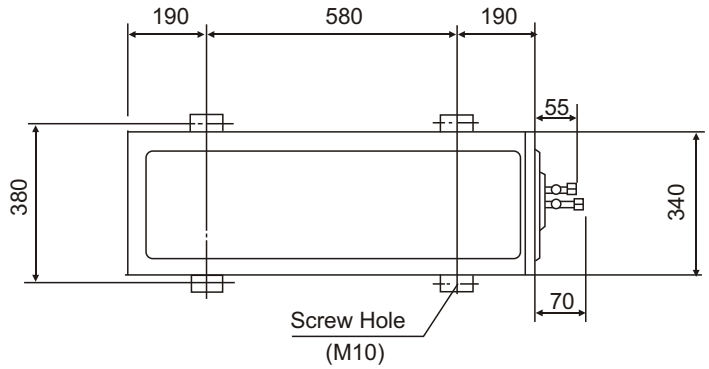
Note : (1). Fix the parts with screws

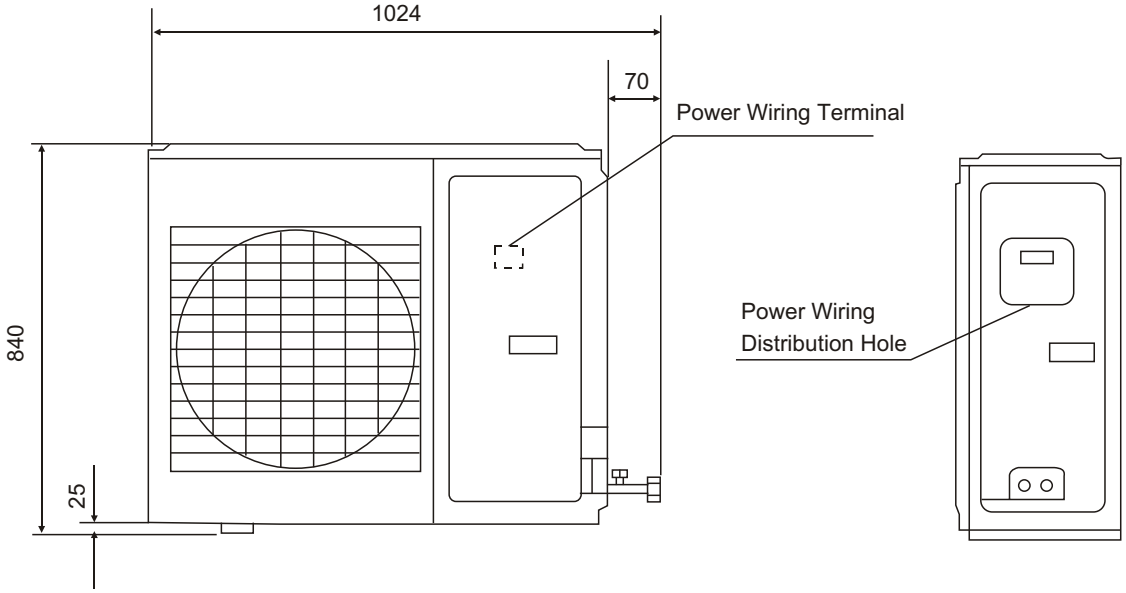
(2).Don't intake the strong wind directly to the outlet air-flow hole.

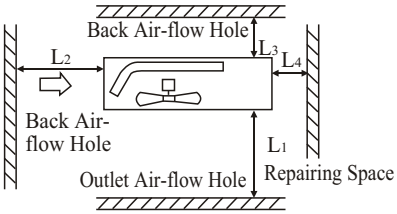
(3).A one meter distance should be kept from the unit top

(4).Don't block the surroundings of the unit with sundries

B. model: AU24-







Installation Servicing Space(at Least)

Unit:mm

Dimension \ Installation	I	II	III
L_1	Leave space	Leave space	500
L_2	300	0	Leave space
L_3	100	150	100
L_4	0	0	0

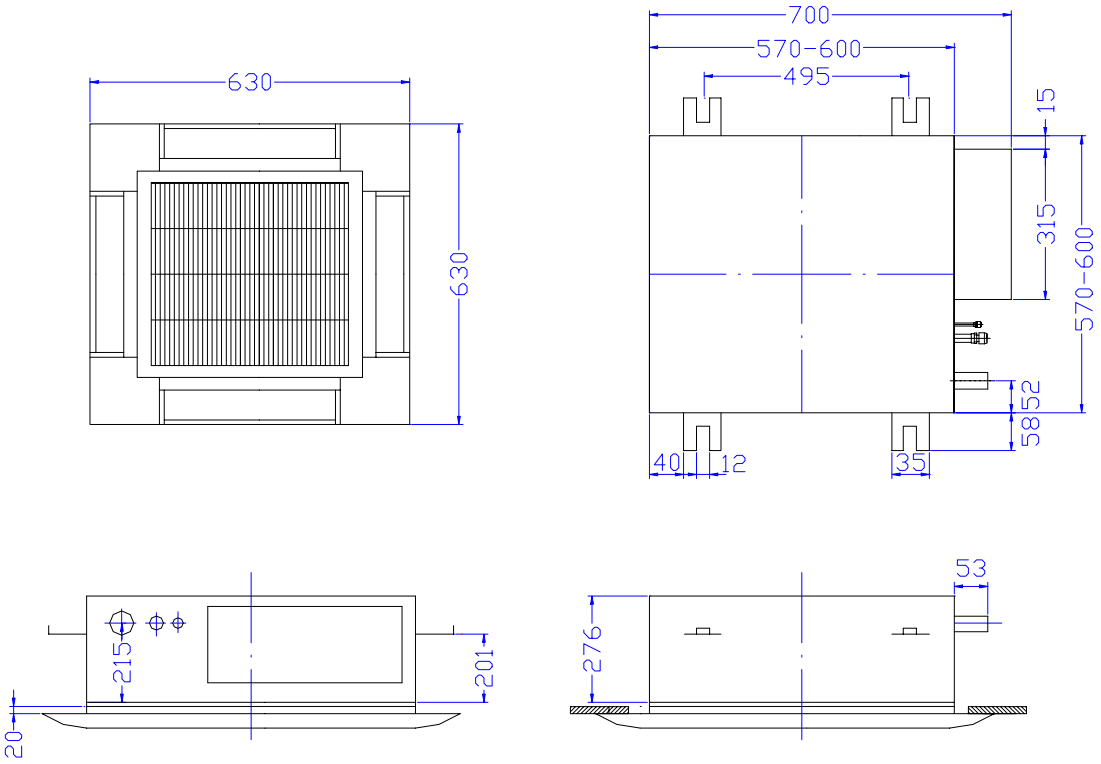
Note (1) Fix the parts with screws

(2)Don't intake the strong wind directly to the outlet air-flow hole.

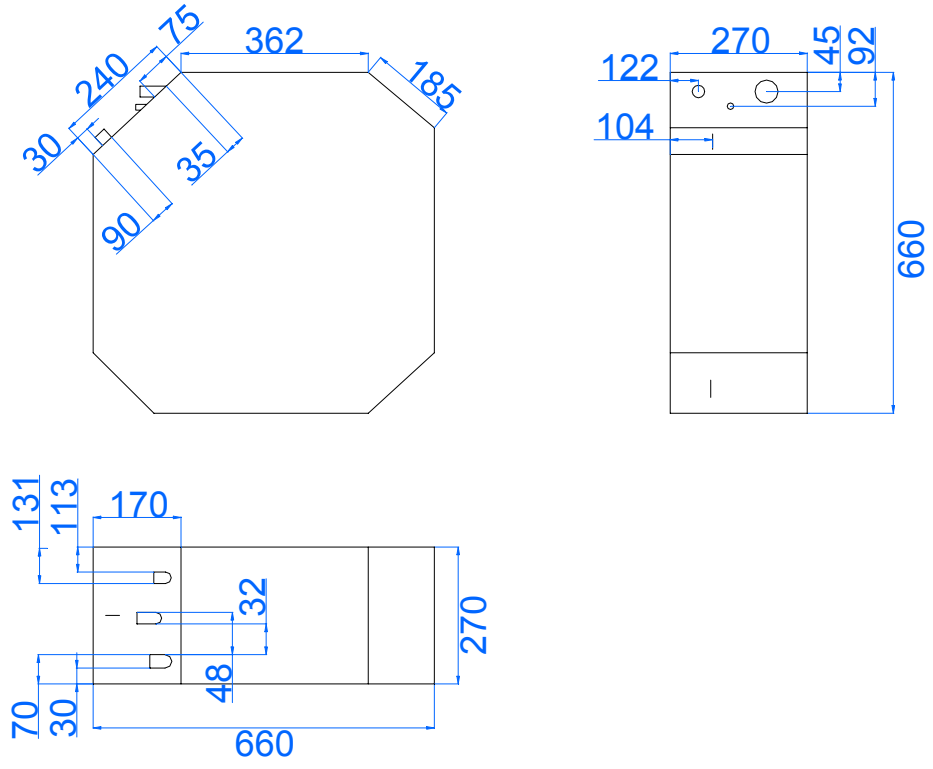
(3)A one meter distance should be kept from the unit top

(4)Don't block the surroudings of the unit with sundries.

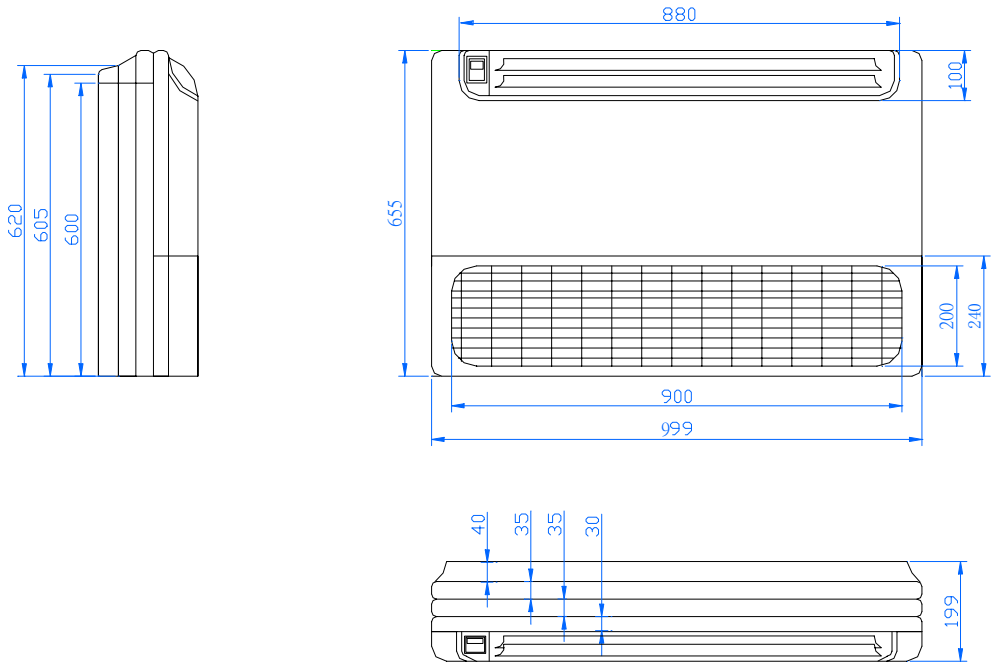
Model: AB092FCAHA AB142FCAHA



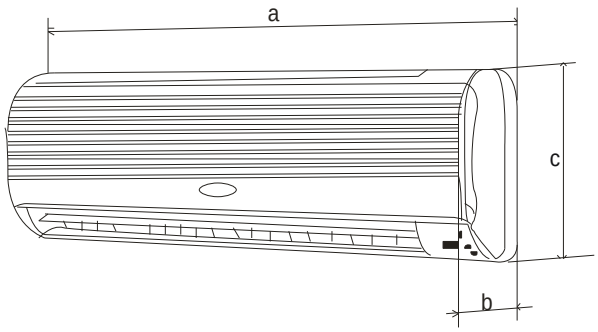
Model: AB182FCAHA



Model: AC182FCAHA

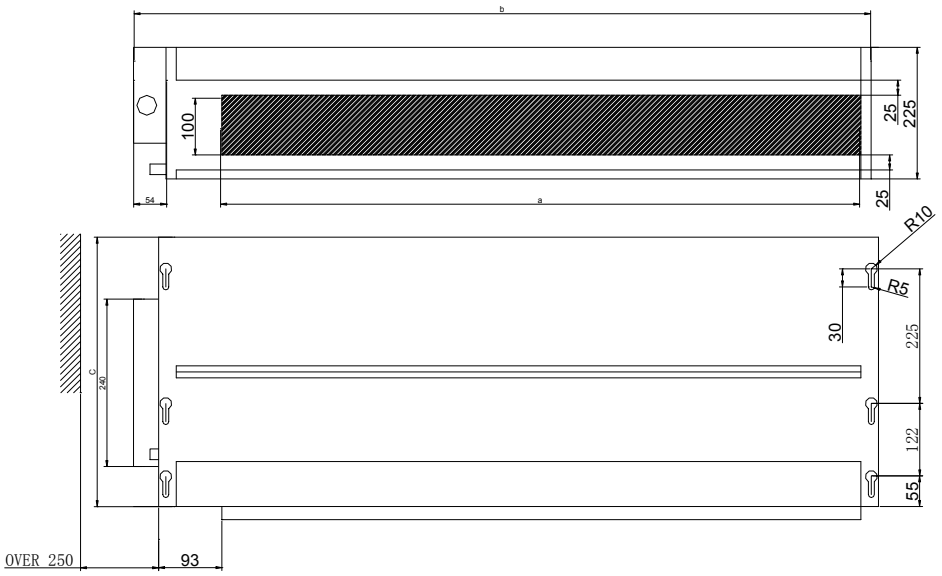


Model: Wall mounted

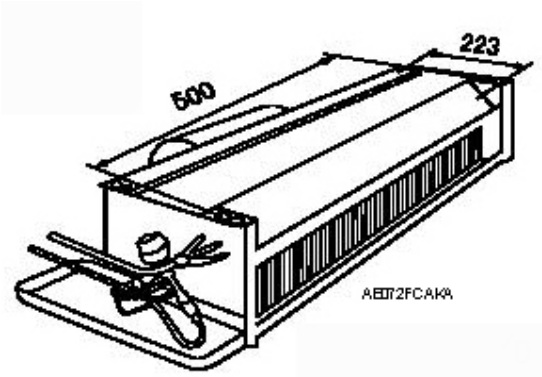


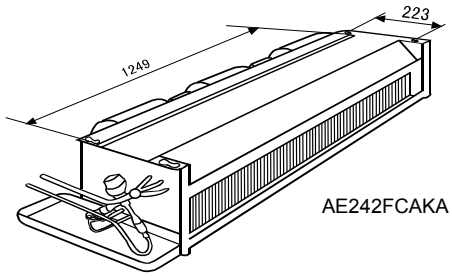
	a	b	c
AS062FMAHA	795	182	265
AS072FMAHA	795	182	265
AS092FMAHA	795	182	265
AS122FMAHA	938	182	265
AS122FBBHA	938	182	265
AS182FTAHA	1100	205	300
AS182FTBHA	1100	205	300

Model: ceiling concealed



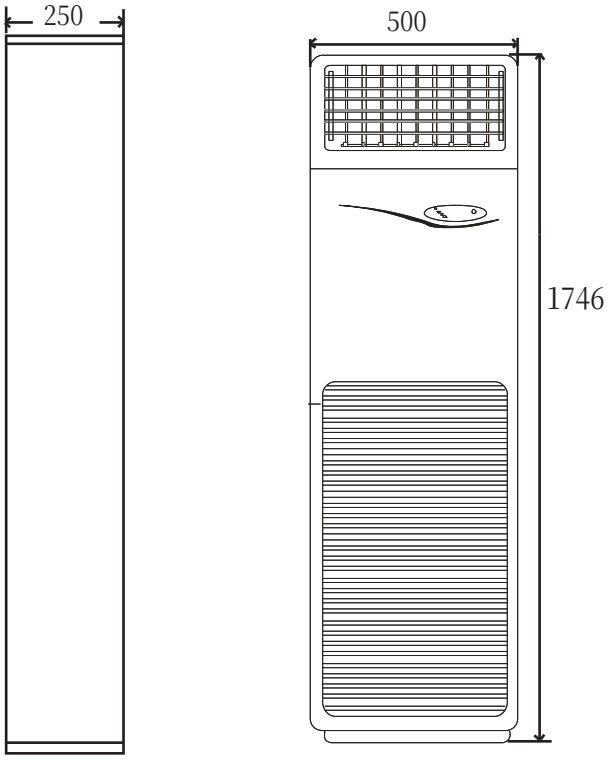
unit model	a	b	c
AE092FCAKA	615	702	452
AE122FCAKA	770	704	452
AE142FCAKA	770	704	452
AB182FCAKA	990	858	452
AE212FCAKA	990	858	452





AE242FCAKA

Model: AP182FAAHA



8.6 The Order of Installation Work

Item	Work	Main points
Before installation	Work division	-to ascertain the person responsible for installation of pipes and wiring
	Make installation diagram	-to ascertain the pipe installation dimension and position of electronic expansion valve, to make control wiring system diagram
Work	Installation of indoor and outdoor unit	-to prevent the ventilation from short circuit and guarantee repair space
	Refrigerant pipe work	-Pay attention to dry, clean and seal
	Drain pipe work	-Slant downward
	Heat insulation work	-No gaps in the joint of heat insulation material
	Wiring work (control wire, power cord)	-Choose the proper wire and cord
	Set every set switch	-Should be complied with control wiring system diagram
	Airtight test	-Close all the gas, liquid valves
	Vacuum drying	-Should the vacuum pump that can reach 200Pa vacuity
	Additional refrigerant	-Write down the additional refrigerant amount on the outdoor unit body and record table
	Test run adjustment	-Do test run to indoor unit one by one to verify if there is wrong pipes
	Training of use and maintenance	-Explain to user, simultaneously provide all the documents

The above work order is general knowledge, they may be changed to be complied with the specific work site.

8.7 Attentive matters of safety

- Before installing, do read this [Attentive matters of safety] carefully to guarantee the proper installation.
- The below attentive matters are divided into [warning] and [note] two parts. When the wrong installation occur, it is very possible death and severe injury and other serious accidents will happen. For those items are listed in [warning] part. But even the items listed in [note] part can also cause serious accidents. Above all, both the two parts are very important contents related to safety, so they must be obeyed.
- After installation, do test run to verify everything is normal, after that please explains the use method and maintenance method to the user according to the operation manual. Additionally, give the installation manual together with operation manual to the user and ask them to keep them properly.

Warning

- The distributing shop, where you bought the air conditioner, or the specified shops shall do the installation work. If you do the installation work by yourself, the improper installation will cause water leakage, electric shock fire and other accidents.
- The installation work shall be in line with what the installation manual specified. If installation is not proper, water leakage, electric shock, fire and other accidents will occur.
- Install the air conditioner to a place where can definitely stand its weight. Places not firm enough will cause drop down of unit resulting in body hurt.
- The installation work shall be preventive to typhoon and earthquake. If the installation

work is not met with the requirements, overturn of the unit will occur resulting in accidents.

- The wiring work shall be done by a qualified person and referred to the “technical standard of electric equipment”, “indoor wiring regulation” and what the manual specified. Do use special circuit. If the capacity of the circuit is not enough or bad work, electric shock, fire and other accidents will happen.
- Using the specified cable to do wiring work and connecting firmly and properly. Fix the connecting part of the terminals to prevent it from the external force. Improper connection and fixing will cause heating and fire etc. accidents.
- Wiring shall be kept in correct shape avoiding extrusion. After installation, the electric box cover and the external panel shall not nip the wire. Improper installation will cause heating and fire etc. accidents.
- When setting or moving the air conditioner do not let the air and things alike get into the refrigeration system except the specified refrigerant (R22). If air and other things enter, abnormal high pressure will occur, which easily cause break and body injuries etc. accidents.
- When installing, do use the accessories or specified parts. If not using the parts specified by our company, water leakage, electric shock, fire and refrigerant leakage will occur.
- Do not lead the drainpipe to drain where the sulfur gas may be involved. Otherwise, the poisonous gas will enter into the indoor.
- During installation, if refrigerant leakage occurs, do the ventilation work immediately. As soon as the refrigerant gas meets fire, poisonous gas will be produce. If the refrigerant gas enters into room and meet the air blowing heater, heater or stove etc. fire source, the poisonous gas may be produced. After installation, confirm there is no leakage of refrigerant.
- Do not install the unit in a place where the combustible gas may be leaked. In any case the combustible gas leaks and accumulated around the unit, fire accident will occur.
- Do heat insulation work to the refrigerant gas pipes and liquid pipes to reach the purpose of heat preservation. If the heat insulation measure is not sufficient, water generated by condensing dew will drip leading to wet the floor and indoor articles.
- Do not damage the power line or change it arbitrarily to avoid occurrence of fire or electric shock.
- Do not extend the power line or using other electric appliance in the same power receptacle to avoid fire or electric shock.

Note

- Do grounding work. Do not connect the grounding wire to gas pipe, tap, lighting rod or telephone line. Improper grounding will cause electric shock.
- In some places the electric leakage breaker shall be installed. If do not install the breaker, electric shock may occur.
- After installation, power on to do electric leakage detecting test.

8.8 Special Work and Main Points in Installation

Warning

● During installation, if refrigerant leakage occurs, take ventilation measurement immediately. ● As soon as the leaked refrigerant gas meets fire, poisonous gas will generate.	● After finishing installation, confirm the refrigerant gas does not leak. ● If the refrigerant gas leaks in the room, once it meets heater, burner and gas stove etc. fire source, the poisonous gas will generate.

A. Choosing of pipes

According to the following indoor unit and outdoor unit installation diagram to choose the material and size of pipes and branch pipes.

B. Connection of pipes

1 Method of pipe connection

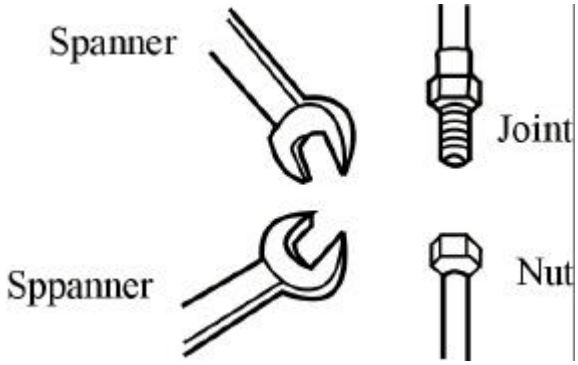
a. The pipe shall be as short as possible to guarantee efficiency.

b. Daub the refrigerant oil on the connection and flare nut.

c. When bending the pipes, give the roundness as large as possible, to avoid crashing the pipes.

d. To connect the pipe, fit the center and screw the nut with hand, then use spanner or torque wrench to tighten it. The fastening torque as shown in below table. As shown in figure.

e. Be careful alien matters, such as sands, water etc. shall not enter the pipes.



Forced fastening without careful centering may damage the threads and cause gas

2. Welding of pipes

a. In welding, the nitrogen shall be used to avoid oxidation of the pipe inner part.

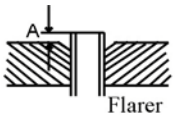
b. The refrigerating pipe shall use clean new pipes. When working, it shall take steps to prevent water and dust from entering.

c. When loosening and tightening the nuts, two spanners shall be used. If using one spanner, it can not reach the desired degree of tightness.

Using the specified fastening torque to fasten nuts.

Pipe diameter (mm)	Installation torque (N.M.)	Fastening torque (N.M.)
6.35	11.8 (1.2kgf.m)	13.7 (1.4kgf.m)
9.52	24.5 (2.5kgf.m)	29.4 (3.0kgf.m)
12.7	49.0 (5.0kgf.m)	53.9 (5.5kgf.m)
15.88	78.4 (8.0kgf.m)	98.0 (10.0kgf.m)

3.Method of cutting and flaring pipe

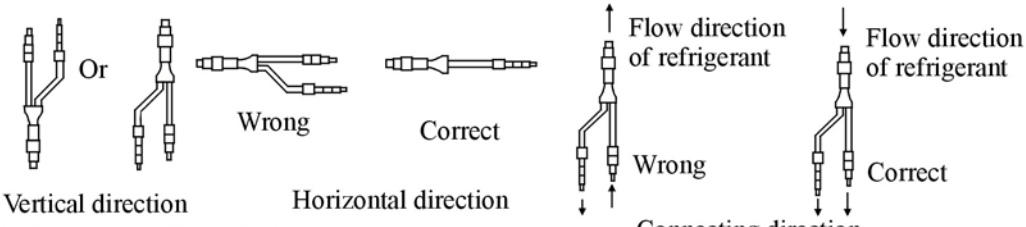


Diameter of pipe	Dimension A (mm)
Ø 6.35mm(1/4")	0.8~1.5
Ø 9.52mm(3/8")	
Ø 12.70mm(1/2")	2.2~2.6
Ø 15.88mm(3/4")	

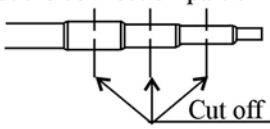
Cutting and flaring pipe
If using pipe cutter, the burs must be removed.
After inserting flaring machine, flare pipe nozzle to be bell-mouthed.
When using branch pipes, do installation work in the directions shown in the below figures.

Correct	Uncorrect				
	Slant	Break	Crack	Partial	Too outside

- When using branch pipe, please install it as shown in the following Fig.

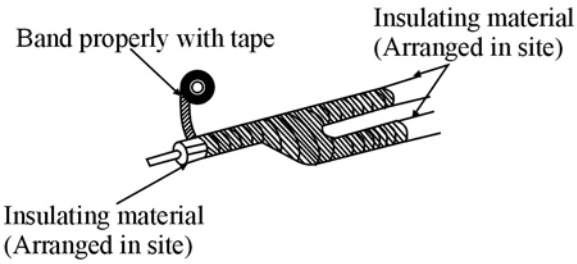


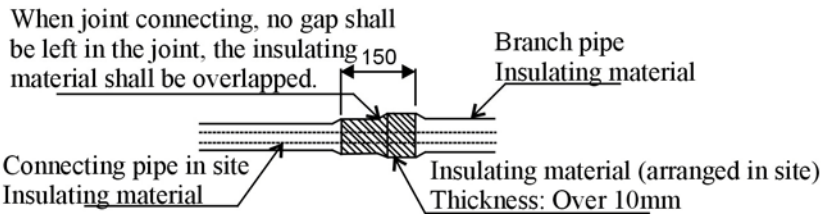
- Cutting part of branch pipe
Cut the connection part off centrally, and remove the burs.



For the cutting of branch pipes, it is necessary to use micro-cutter.

Heating insulation of pipes
Insulation of branch pipe part;after connection the attached heat insulation materials of the branch pipe with the site pipes, bind them properly.




When joint connecting, no gap shall be left in the joint, the insulating material shall be overlapped.
150
Branch pipe
Insulating material
Connecting pipe in site
Insulating material
Insulating material (arranged in site)
Thickness: Over 10mm

(4) Pipe connection of the outdoor unit

Referring to the installation diagram in page 4, connect the indoor unit, outdoor unit, branch pipe and electronic expansion valve together by using the pipe connection method and welding method.

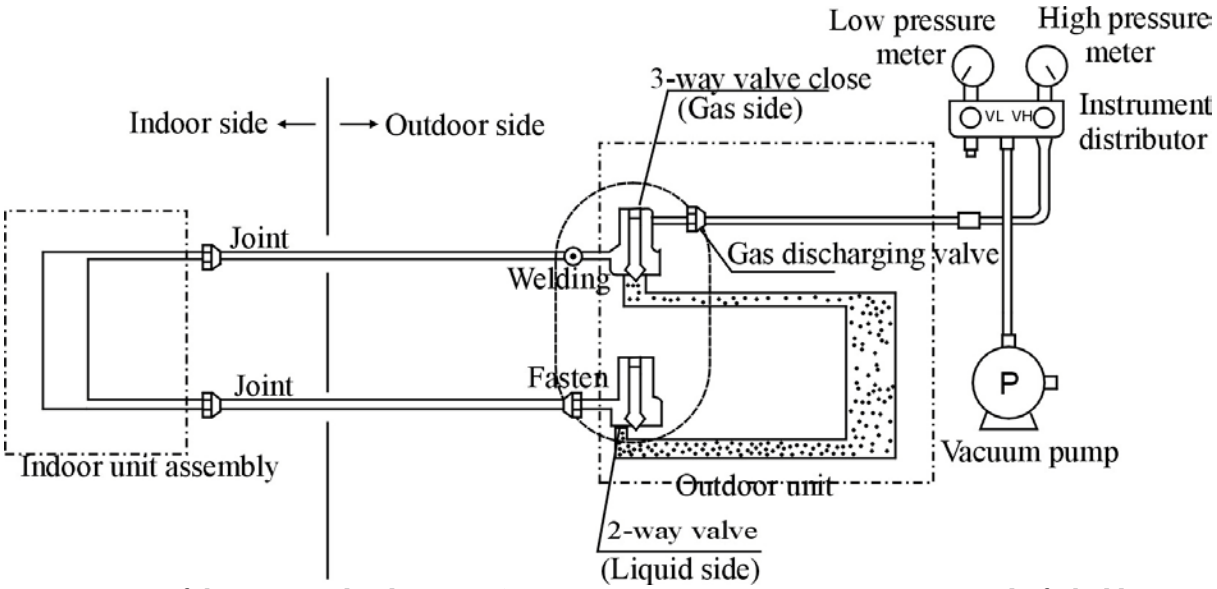
(5) Test of airtight quality

After connection of the refrigerant pipes, carry out airtight quality test. In this test,

8.9 Test of leakage after wiring work is finished

After connection of the refrigerant pipes, carry out leakage test. In this test, pressurize to the pipes as shown in the below figure by using nitrogen tank.
Close the valves of the gas side and liquid side totally.
The nitrogen may enter the cycle system of the outdoor unit, so that, before pressurizing, the valve rods must be fastened. (Both the gas side and liquid side).
For each of the refrigerant system, pressurize from the discharge valve of gas side in procedure.
When doing leakage test, it is absolutely forbidden to use oxygen, flammable gas and poisonous gas. The indoor unit expansion valve must be open.

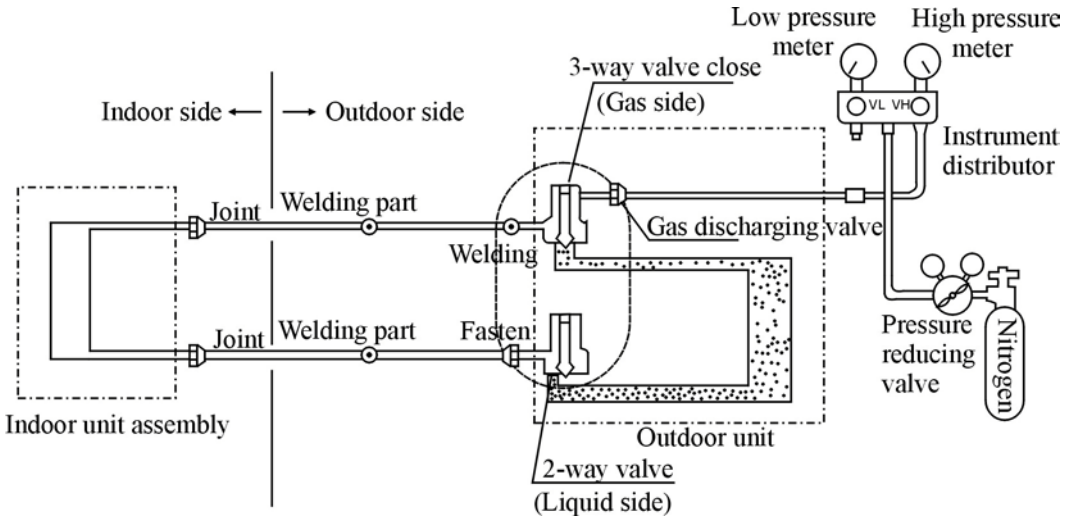
After wiring work and setting the address, switch on the indoor units and after 25-30s put down the power,then charge the nitrogen gas.



5 vacuuming of the pipes and indoor unit (using vacuum pump to vacuums, it is strictly forbidden to use refrigerant purging)

a. Choose of vacuum pump: it shall choose those that can reach a good vacuity (over 200Pa)and have a large air discharge amount (over 40L/min).

b. After finishing the airtight quality test and the nitrogen discharging , connect the instrumental diverter to the 3-way discharge valve, then connect the vacuum pump according to the below figure.



c. Vacuumize 2~3 hours according to the length of the pipe. When vacuuming, confirm the gas side and liquid side of the 2-way valve and 3-way valve shall be in full close state.

d. When it is not lower than 200Pa after 2 hours or more vacuuming, vacuums for another 1 hour. If after more than 3 hours vacuuming it is still not lower than 200Pa, the leak part shall be found.

e. When it is lower than 200Pa after more than 2 hours vacuuming, close both the valve VL and VH of the diverter, then close the vacuum pump. Place it there to observe if the vacuity changes. If it changes, it indicates leakage exists, so the leak part shall be found.

f. After finishing the above vacuuming work, replace the vacuum pump with refrigerant tank and turn to the refrigerant charging procedure.

8.10 Charging of refrigerant

1. Calculation of additional charging amount of refrigerant

After finishing vacuuming work, replace the vacuum pump with refrigerant tank and turn to the refrigerant additional charging procedure.

Calculation of additional charging amount of refrigerant

Before the air conditioner leaving factory, the refrigerant-charging amount does not include the refrigerant in the site pipe part. Calculate the refrigerant amount for the site pipe first, then do the additional refrigerant charging work.

Refrigerant charging amount when air conditioner leaves factoryR22: 2x1.6Kg; R407C:2x2.0Kg.

Calculation method:

According to the liquid pipe dimension of site pipe and actual length to calculate the additional refrigerant-charging amount.

Calculation formula:

Site refrigerant charging amount=Length of liquid pipe x additional refrigerant charging amount/m

For example: additional charging amount

R (kg) = (L1x0.030kg/m)+(L2x0.065kg/m)

L1: Total length of liquid pipe diameter 6.35mm;

L2: Total length of liquid pipe diameter 9.52mm.

2. Charging of refrigerant

Close all valves of outdoor unit, and charge refrigerant from air discharge valve of gas side.

When can not charge the specified amount, firstly, open all the valves, both liquid side and gas side, of outdoor unit, then switch the valve of gas side to close state a little. Under this condition, do cooling operation and charge refrigerant from the discharge valve of gas side. At this time, adjust the valve of the refrigerant tank to make the refrigerant in Gas State when it is absorbed by system.

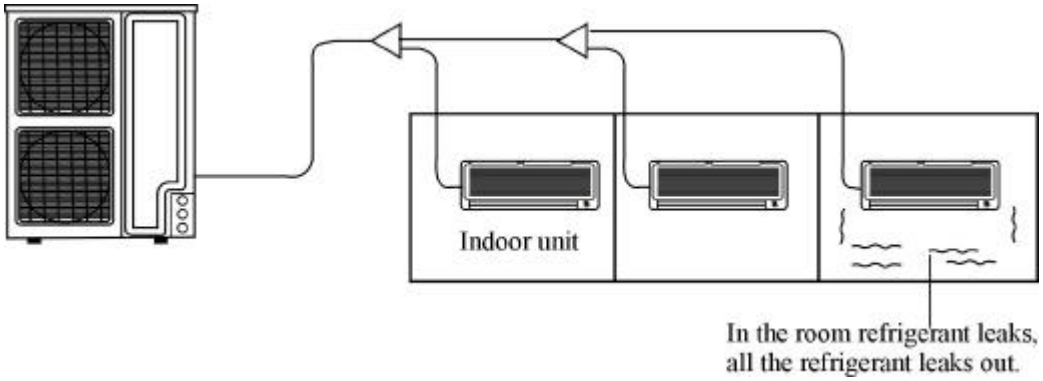
When refrigerant leakage making refrigerant lack in system occurs, the intrinsic refrigerant of the system shall be recovered and recharge it according to specified amount.

3. Opening of the refrigerant pipe

Open all the valves of outdoor unit

8.11 Refrigerant

MRV central air conditioner uses refrigerant “R22”. This refrigerant itself is innocuous, non-combustible safety refrigerant. But then, when arranging the air conditioner equipment, it is necessary to take some steps to take precautions against in case of the indoors refrigerant leakage. Such as, the room size shall be taken into account to avoid making the concentration of the refrigerant not exceed the concentration limit and other relevant steps. The concentration limit is the concentration that is not harmful to human body and can take emergency steps to treat the concentration of Freon.
Concentration limit of R22: 0.3kg/m3



1. Sequence of refrigerant concentration affirmance

Calculate the refrigerant concentration according to the following sequence.
(1) Calculate the total refrigerant-charging amount of each of the refrigerating system (kg).

- Refrigerant charging amount of outdoor system + Additional refrigerant charging amount = Total refrigerant charging amount of the refrigerating equipment (kg).
- Refrigerant charging amount of outdoor system: Refrigerant charging amount when air conditioner leaves factory.
- Additional refrigerant charging amount: Additional refrigerant charging amount according to the site pipe length and pipe diameter.

(2) Calculate the minimum size of the room suitable for the indoor unit assembly (m3).
(3) Calculate the concentration of refrigerant:
Total refrigerant charging amount of refrigerating equipment/the minimum room size suitable for indoor unit assembly (m3) ≤ Refrigerant concentration limit: 0.3kg/ m3

2. Countermeasure when exceeding the concentration limit

(1) Set an effective opening for ventilation and fresh air.

- Cut an intake respectively on the upper and lower part of the door which areas are equivalent to 0.15% grounding area, or cut an intake in other part of the room.

(2) Reduce the total refrigerant charging amount of the refrigerating equipment

- Shorten the refrigerant pipe length. Reduce the installation place distance between the outdoor unit and the indoor unit to shorten the refrigerant pipe length, so that reduce the total refrigerant charging amount of the refrigerating equipment.

(3) Establish ventilation and fresh air system

- Establish a mechanical equipment for fresh air to keep the refrigerant concentration below the concentration limit (normal ventilation)\
- When can not ventilate the normally, please set an alarm apparatus linked with the mechanical ventilation equipment.

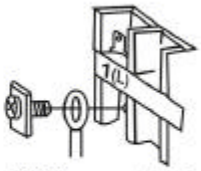
8.12 Electric wiring

Note:

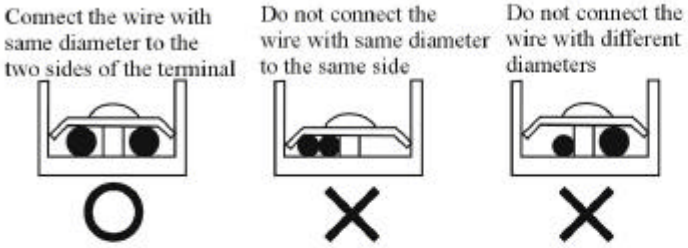
- The air conditioner must use special circuit (over 40A), and wiring by the qualified electrician according to the wiring rules specified in national standard.
- The grounding wire and the neutral wire shall be strictly separated. Connect the neutral wire with grounding wire is incorrect.
- The electric leakage breaker must be installed.
- All the electric wire must be copper wire. When wiring, there shall keep a proper distance between the power line and communication wire to avoid twist together. Otherwise, signal disturbance will occur, and the air conditioner can not operate normally.
- Power supply: 1PH, 220V~, 50Hz, the power supply connects from the outdoor side.
- The wiring method of power line is Y connection. If the power line is damaged, in order to avoid risk of electric shock, it must be replaced by the manufacturer or its repair center or other similar qualified person.
- Specification of wire and short circuit protector in site wiring:

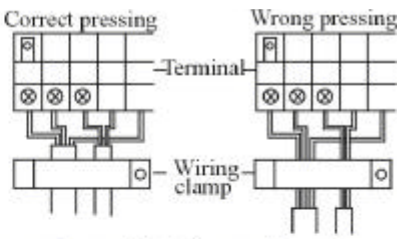
Type / Contents	Power line	Connection wire	Connection signal wire	Short circuit protector
Specification	YZW	YZW	YZW	----
Parameter	3 x 6mm2	3 x (1~1.25mm2)	2 x (0.75~1.25mm2)	40A

Note: The signal wire using shielded wire is recommended.

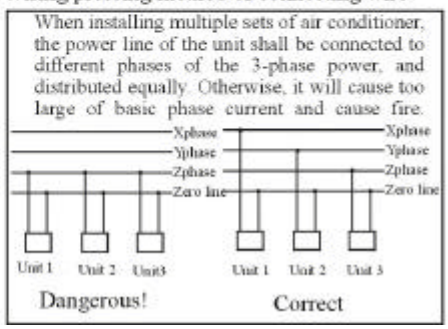


Wiring method of ring-type terminals


Connect the wire with same diameter to the two sides of the terminal
Do not connect the wire with same diameter to the same side
Do not connect the wire with different diameters



Wiring pressing method of connecting wire


When installing multiple sets of air conditioner, the power line of the unit shall be connected to different phases of the 3-phase power, and distributed equally. Otherwise, it will cause too large of basic phase current and cause fire.
Xphase
Yphase
Zphase
Zero line
Unit 1
Unit 2
Unit3
Dangerous!
Correct

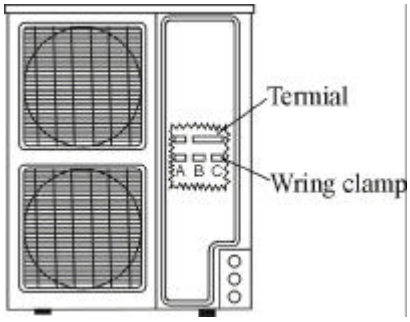
Wiring method

1. Wiring method of orbicular terminals
   For the connection wire with orbicular terminals, its wiring method is as shown in the right figure: remove the connecting screw, put the screw through the ring on the end of the wire, then connect to the terminal block and fasten screw.
2. Wiring method of straight terminals
   For the connection wire without orbicular terminals, its wiring method is: loosen the connection screw, and insert the end of the connection wire completely into the terminal block, then fasten the screw. Slightly pull the wire outwards to confirm it is firmly held.
3. Crimp connection method for wires without terminals

Crimp connection method for connection wire

After connection, the wire must be fastened by wire cover. The wire cover shall press on the protection coat of the connection wire, as shown in right top figure.

Note: When connecting the wiring, confirm the terminal number of indoor and outdoor units carefully. The terminals with same number and color connect with a same wire. Incorrect wiring will damage the controller of air conditioner or the unit can not operate.



Wiring method of outdoor unit:

- Power line (connects from outdoor unit)
  Remove the repair board of the outdoor unit and loosen the wire cover A, then put the live wire, neutral wire and grounding wire through the wire cover A, and connect them to terminal block correspondingly. After connection, fasten wire cover A to its previous state.
- Power line and communication wire of indoor unit
  Loosen wire cover B and C, put the power line and communication wire connected with A, B system indoor unit through the wire cover B and C, and connect them to terminal block correspondingly. After connection, fasten wire cover B and C to its previous state.
  Note: Power line, connection wire and communication wire are provided by consumers themselves.

Wiring method of indoor unit

- Power line and communication wire of indoor unit
  Loosen wire cover and connect the power line and communication wire of indoor unit to the terminal correspondingly.
- Drive wire of electronic expansion valve
  Air-connect the drive wire of electronic expansion valve with the down-lead from the control base board of indoor unit.
  After the above connection, fasten the wire cover to its previous state.

Wiring method of electronic expansion drive

Open the box cover of the drive and put the drive wire of electronic expansion valve through the rubber ring, then correspondingly connect the connection wire with the terminal of control base board of the drive. Use nut to connect the grounding wire on the drive box and use wire clamp to fasten the wire. Put on the cover, the wiring connection is finished.

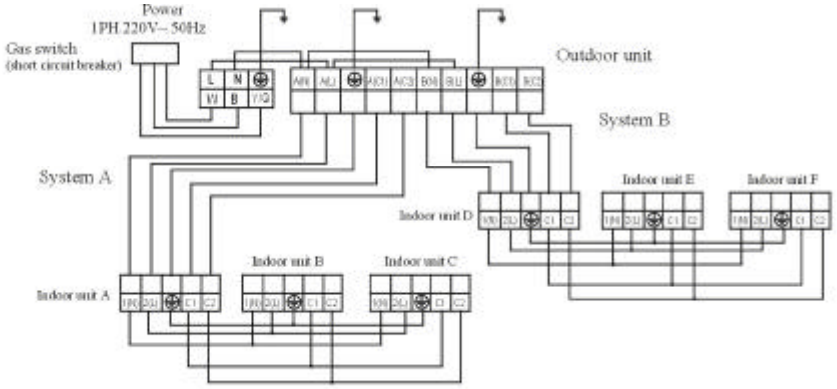
Note:

When connecting power line to power supply terminal, please pay attention to the following items:

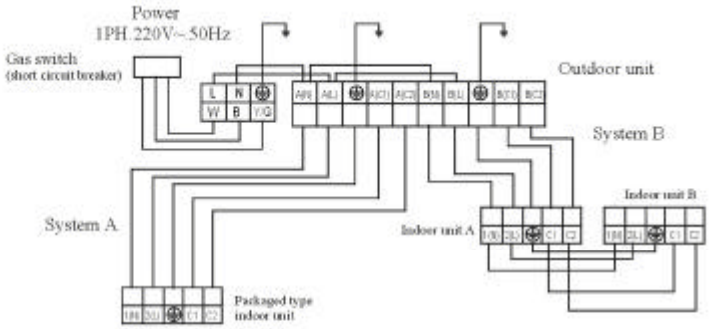
1. Do not connect the power line with different dimensions to the same connection wire end. Improper contact will cause heat generation.

2. Do not connect the power line with different dimensions to the same grounding wire end. Improper contact will affect protection.
3. Keep a proper distance between the communication wire and the power line. Otherwise, abnormal communication will occur because of disturbance.
4. Do not connect the power line to the connecting end of communication wire. Incorrect connection will cause damage of connected unit.
5. The communication wire must be shielding wire. Wiring example diagram:

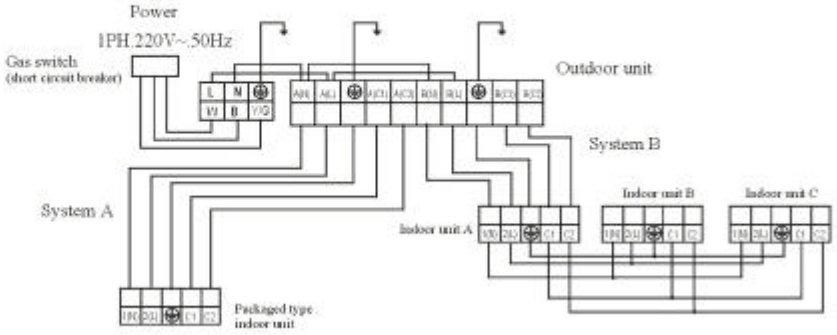
MODEL: Indoor unit KR-32G/(F)×6
Outdoor unit KR-120W/(BP)



MODEL: Indoor unit KR-32G/(F)×2
Indoor unit KR-50L/A(F)
Outdoor unit KR-120W/(BP)



MODEL: Indoor unit KR-32G/(F)×3
Indoor unit KR-50L/A(F)
Outdoor unit KR-120W/(BP)



Note: The signal wire of packaged type indoor unit must be connected to system A (outdoor unit terminal block A(C1),A(C2)).

8.13 Unit address number setting

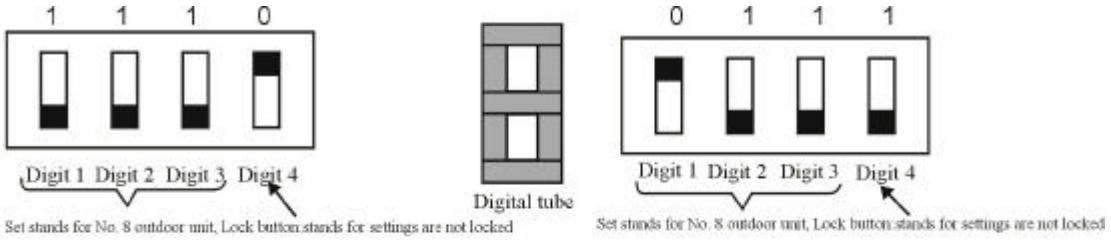
In order to centrally control MRV air conditioner system, it needs to make unit number setting to indoor units and outdoor unit (control address).

a. Unit number setting of outdoor unit (now it is unuseful)

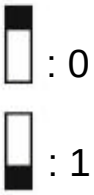
Unit number setting switch of outdoor unit and confirming of setting.
4-digit number setting dialing switch and corresponding nixie tube confirming display are equipped on the outdoor unit.
Setting mode as follows:
Before electrifying, manually set the outdoor unit number according the following table. After electrifying, the nixie tube displays letter "P".
After the setting contents are locked, the nixie tube will steadily display the outdoor unit number. (lock setting shall be done after finishing setting of the indoor and outdoor unit number).

b. Table of relation between dialing switch and outdoor unit number

Digit 1	Digit 2	Digit 3	Unit number stood for
0	0	0	1


1 1 1 0
Digit 1 Digit 2 Digit 3 Digit 4
Set stands for No. 8 outdoor unit, Lock button stands for settings are not locked
Digital tube
0 1 1 1
Digit 1 Digit 2 Digit 3 Digit 4
Set stands for No. 8 outdoor unit, Lock button stands for settings are not locked

Bit 123	Preelected number	Confirmed number after electrified
000	1	1
001	2	2
010	3	3
011	4	4
100	5	5
101	6	6
110	7	7
111	8	8



c. Setting of indoor unit number

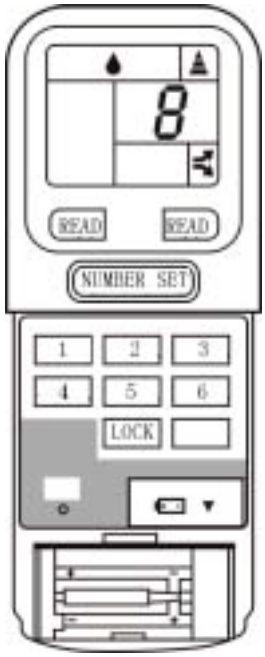
After installation or after adding new indoor units, when electrifying for the first time, it is necessary to set unit number to the indoor units (note: the cabinet type indoor unit has been set to be No. 3 unit, it is unnecessary to reset unit number to it. At the same time, it is forbidden to set other units as No. 3 unit). Before electrifying, the lock button of the dialing switch shall be at locked state. After electrifying:

- When indoor unit number is not set, the power light, operation light and timer light will flash together waiting for receiving unit number.
- When indoor unit switches from one system to another system, because of the conflict between the existed control address and the address auto set by outdoor unit to indoor unit, the phenomenon of power light, operation light and timer light flashing together will

appear.

- When using special remote controller to do unit number setting, it shall be done at a place 1m away from the infrared receiver window. The specific setting method as follows: press the number button according to the unit number to be set, then press set button to send signal.
- When indoor unit receives the signals from the special remote controller, the buzzer will give a "Pi" sound, the flash of power light, operation light and timer light will stop together, it indicates the indoor unit has received the signal. The set unit number can be confirmed by using the "checking" function of special remote controller. The power light of indoor unit will flash the set unit number (for example: the set unit number is 5, after pressing "checking" button, the power light will flash 5 times).
- After setting all the indoor units number, push the lock button of the outdoor dialing switch to locked position, unit number setting is unallowed. At this time, when indoor unit receives signals from special remote controller, it will give "Pi, Pi" sound twice to indicate refusing to change unit number.
- If finding the repeated set unit number in unit number setting, the buzzer will send "Pi, Pi" sound twice to refuse to set.
- When setting unit number, in order to avoid setting the same number to many indoor units, there shall be a 10 seconds interval among each setting. So that, when repeated unit number appears, the indoor unit will automatically find out.
- When setting unit number, please set the unit number in sequence and record carefully to avoid repeated unit number setting.

- The special remote controller is shown below



8.14 Checks after the installation

After installation, please fill in the following form for easy daily maintenance:

No.	Model of indoor unit	Factory No. of unit	Site setting No.	System belonged (A/B)
1				
2				
3				
4				
5				
6				

Check for installation and test run

- Please operate the air conditioner according to the operation manual.
- Check items for test run, put mark √ in □
- Gas leakage from pipe connection ?
  Heat insulation treatment of pipe connection?
- Is the connection wiring of indoor and outdoor unit firmly inserted into the terminal block?
- Is the connection wiring of indoor and outdoor firmly fixed?
- Is drainage securely arranged?
- Is the ground wire securely and firmly connected?
- Is power supply voltage abided by electric code?
- Is there any noise?
- Does cooling perform normally?
- Does room temperature regulator operate normally?

5.2 Installation of indoor unit for console type

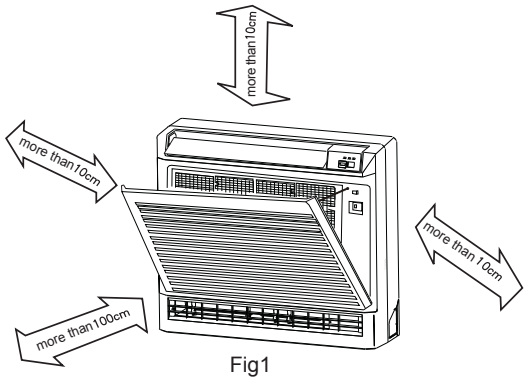


Fig1

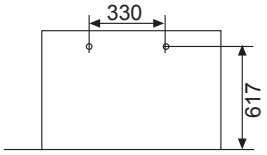


Fig2

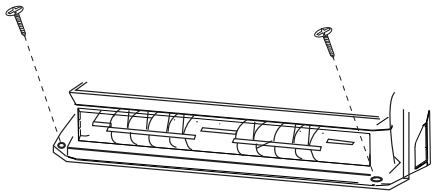


Fig3

Tool necessary

1. Screw driver
2. Hacksaw
3. 70mm dia.hole core drill
4. Spanner(dia. 17,27mm)
5. Spanner(14,17,27mm)
6. Pipe cutter
7. Flaring tool
8. Knife
9. Nipper
10. Gas leakage detector or soap water
11. Measuring tape
12. Reamer
13. Refrigerant oil

Standard accessories

Following parts shall be field supplied

Mark	Part name
Ⓐ	Adhensive tape
Ⓑ	Pipe clip
Ⓒ	Connecting hose
Ⓓ	Insulation material
Ⓔ	Putty
Ⓕ	Drain hose

Installation of indoor unit

selection of installation place

- Place where it is easy to route drainage pipe and outdoor piping.
- Place ,away from heat source and with less direct sunlight.
- Place where cool and warm air could be delivered evently to every corner of the room.
- Place near power supply socket.Leave enough space around the unit.
- Place ,robust not causing vibration,where the body can be supported sufficiently.
- To prevent interference, place it at least 1m away from other electric machines, such as TV set, radio.

Installing

- According to the dimension of the figure 2 shown, nail two cement steel nails on the wall,Keep 2~3 mm out.then hang the back of the unit on them.
- There must be no gap between the indoor unit and wall.
- Remove the front panel,then use two expansible screws to fix the unit on the floor.As figure 3 shown.
- Once refrigerant piping and drain piping connections are complete,fill the gap of the throght hole with putty.
- Attach the front panel and front grille in their orginal positions once all connections are complete.

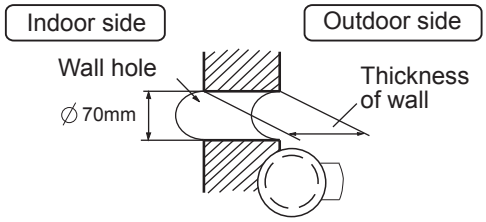
No.	Shape and description	QTY
①	Remote controller	1
②	Wire clip	4
③	Self-tapping screw	4
④	Wall hole cover	1
⑤	Dry battery #7	1
⑥	Cement steel nail	**6**

Note: There isn't connecting wire with this unit.

Fixing of the unit

1.Position of the wall hole

Wall hole should be decided according to installation place and piping direction.(refer to installation drawings).



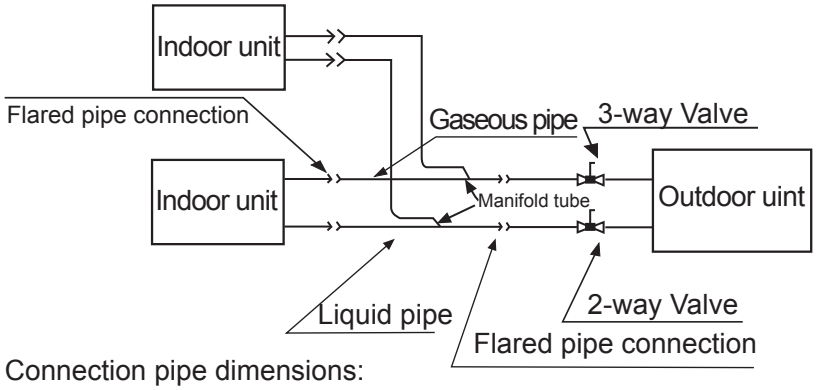
(Cross section of wall hole)

2. Making a wall hole

Drill a hole of 120X70mm dia. with a little slope towards outside.

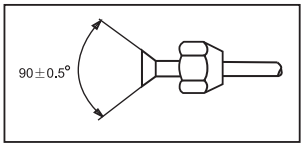
3. Piping connection

(1)Schematic diagram for unit connection



(2) Connection pipe dimensions:

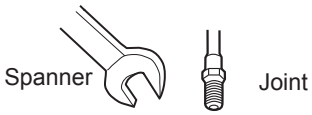
Pipe Value	Torque
Liquid 6.35mm	18 N·m
Gaseous 12.7mm	50 N·m

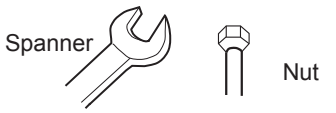


- Apply and tighten the nut.

(3)Maximum length and height difference of connecting pipe

- Maximum length: 20m; Height difference: 10m
- To ensure efficiency, shortest possible pipe should be used.





Threads on the pipes may be damaged when tightening if the pipes are not well aligned.

Cautions for pipe connection

- Pipes free from twists, deformation, water, dust.
  Dedicated tools for each R407C and R22 should be used and stored separately.
- Optimized radii of bends
- Insulation to be applied on all gaseous pipes
- Flared section free from cracks

(4) Pipe connection process

Apply refrigeration oil on the end of the pipe to be connected and on the flared section.
Align the pipes to be connected and tighten the nut. (See the figure)
Ensure that no foreign articles enter into the pipes.

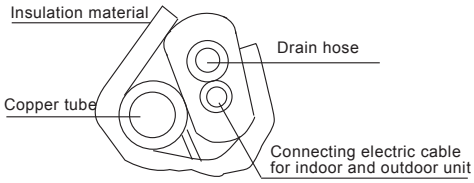
Piping connection of the indoor unit

1. Arrangement of piping and drainage pipe

After opening inlet grill,you will see a control box.

Remove the cover before working.

Cut away, with a hammer or a saw, the lid for piping according to piping direction.



According to the piping method, connect the piping on indoor unit with union of connection pipe.

Arrange the piping as per the wall hole and bind drain hose connecting electric cable and piping together with polyethylene tape.

Insert the bound piping connecting electric cable and drain hoes through wall hole to connect with outdoor unit.

2. Arrangement drain hose

Drain hose shall be placed in under place.

There should be a slope when arrange drain hose. Avoid up and down waves in drain hose.

If humidity is high, drain pipe(especially in room and indoor unit) must be covered with installation material.

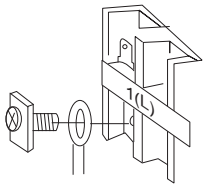
Electric wiring :

Process of wire connections

1. Loop terminal
   After removing the screw, fix the wire ring on the screw, reinsert the screw into the block terminal and then tighten the screw.

2. Straight terminal
   After loosening the screw, inset the wire end into the block terminal and then tighten the screw. Slightly pull the wire to see if it is tightly fixed.

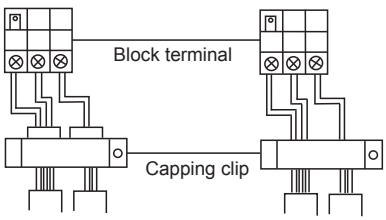
3. Wire capping
   After completion of connection, capping clips must be applied on the external sleeve of the wires.



Wiring diagram of loop terminals

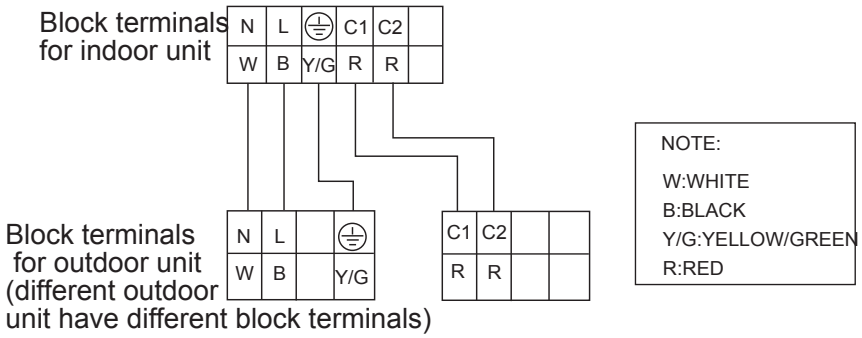
Wiring of indoor unit

- Remove air intake screen and take out the front wires.
- Connect the wires as specified in the above methods and diagrams for indoor unit and wire connections.
- Properly apply capping clips on the wires.
- Replace the air intake screen.
- Do not link the connecting and signal wire with the same cable, a snug space must be maintained between connecting and signal wires.
- Shield of the signal wire should be spot grounded.



Wiring diagram:

Wiring diagram:



Note:

- When connecting indoor and outdoor wire, check the number on indoor and outdoor terminal blocks. Terminals of same number and same color shall be connected by the same wire.
- Incorrect wiring may damage air conditioner's control or cause operation failure.

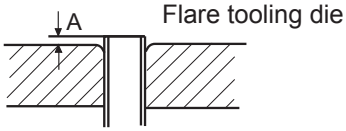
Others

1.Power supply requirements:

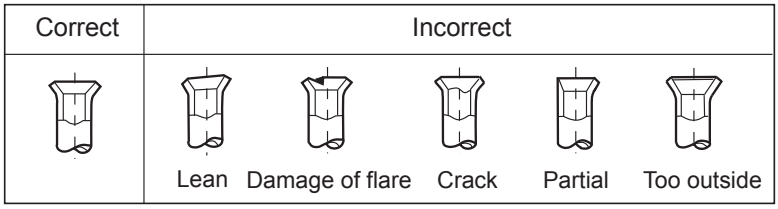
- Voltage: single-phase1PH,220-230V*,50Hz
- Dedicated electrical cable should be installed by a qualified technician in accordance with the state regulation for electrical engineering.
- The power source must be grounded.
- A circuit breaker must be installed
- Electrical cables should be connected by ìYî method. Damaged or wornelectrical cable must be replaced by authorized after sales agents.
- The power plug should be connected as follows: L for live line, N for neutral line and ⏚ for grounding.
- Connection parameters: H05RN-F 3G(1.0-1.5)mm^2
- Signal parameters: H05RN-F2X(0.75-1.5)mm^2 (Shieded wire)
- Cables for power supply, connection and signals are prepared by the owner.

2.Piping cutting and flaring

Be sure to carry out deburring after cutting with a pipe cutter.
Insert flaring tool to make a flare.



	Pipe diameter φ	Size A (mm)
Liquid pipe	6.35mm(1/4")	0.8 ~1.5
Gas pipe	12.7mm(1/2")	1.2 ~2.0



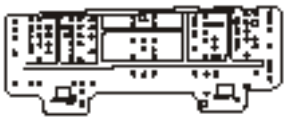
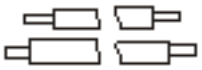
5.3 Installation Instructions of wall mounted type

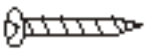
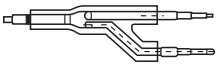
Installation Tools

1) Screw Driver 2) Hacksaw 3) Hole core drill 4) Hexagon wrench (5mm) 5) Spanner (14,17,19 and 24mm) 6) Torque wrench (17,22,24mm) 7) Pipe cutter 8) Flaring tool

Standard Accessories

The standard accessories includes: 1) Measuring type 2) Reamer 3) Refrigerant oil 4) Gas leakage detector or soap-and-water solution 5) Knife 6) Nipper

NO.	Accessory Parts	Number of articles	
		3 by 1	4 by 1
1	Remote controller	1	1
2	Remote controller holder	1	1
3	R-03 dry battery	1	1
4	 Mounting plate	1	1
5	Drain hose	6	8
6	A4x50 Steel nail,cement	24	32
7	 Main pipes	6	8
8	Ø25 Plastic cap Screw	18	24
9	Connecting cable	6	8
10	Pipe supporting plate	6	8
11	Drain-elbow	3	4
12	Hexagon wrench	1	1

NO.	Accessory Parts	Number of articles	
		3 by 1	4 by 1
13	Cover	3	4
14	Refrigerant oil	1	1
15	 Self-tapping screw	12	16
16		1	1

The installation of wall mounted type

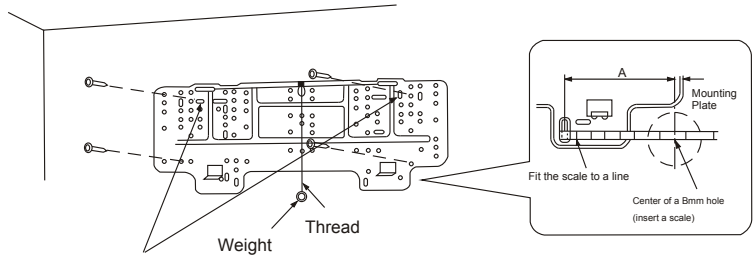
1 Fitting of the Mounting plate and Positioning of the Wall Hole

When the mounting plate is first fixed

1 Carry out,based on the neighboring pillars or lintels, a proper leveling for the plate to be fixed against the wall,then temporarily fasten the plate with one steel nail.

2 Make sure once more the proper level of the plate,by hanging a thread with a weight from the central top of the plate,then fasten securely the plate with the attachment steel nail.

3 Find the wall hole location A using a measuring tape.



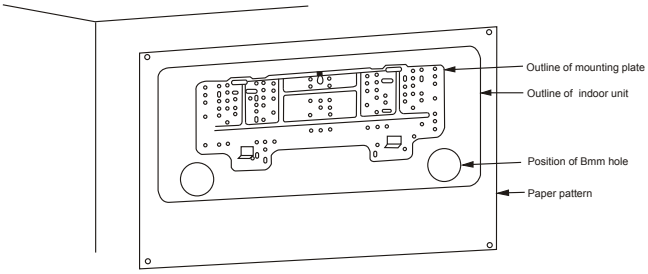
Holes for fixing the mounting plate

Fit the level line

When the paper pattern is used

1 Stick a paper pattern on the wall horizontally

2 Position by using the pattern then remove the pattern.

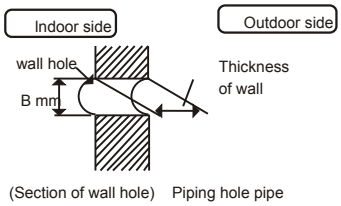


When the mounting plate is fixed to side bar and lintel

- Fix to side bar and lintel a mounting bar, which is separately sold,and then fasten the plate to the fixed mounting bar.
- Refer to the previous article," When the mounting plate is first fixed ",for the position of wall hole.

2 Making Hole on the Wall and Fitting the Piping Hole Cover

- Make a hole of 60mm in diameter, slightly descending to outside the wall
- Install piping hole cover and seal off with putty after installation.



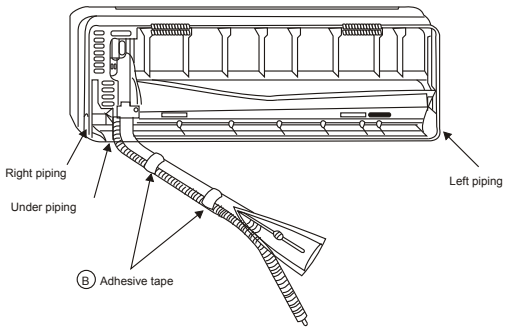
(Section of wall hole) Piping hole pipe

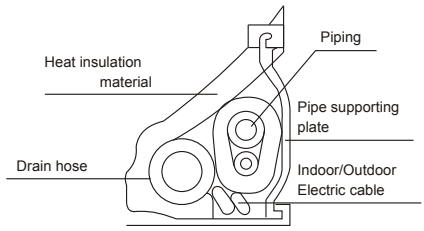
3 Installation of the Indoor Unit

Drawing of pipe

[Rear piping]

- Draw pipes and the drain hose, then fasten them and connecting electric cable for indoor and outdoor with the adhesive tape.
- Drain hose should be placed under.



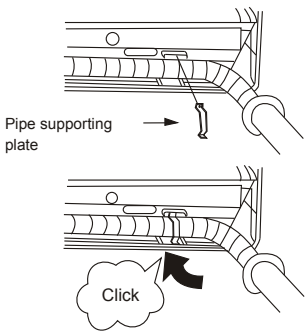


[Other direction piping]

- Cut away, the left, under or right side lid with a nipper or saw, according to the wall hole position, then bend the piping and fix it with piping support plate.
- Sometimes it becomes an easy installation by preconnecting the interconnect cable, then fasten piping and drain hose with it .

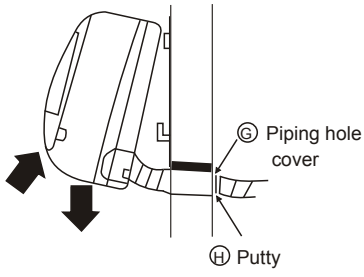
[Installation of piping support plate]

- Insert the plate from top, into the piping to be fixed.
- Push its buttom hard until you hear a clik.



Fixing the indoor unit body

- Hang surely the unit body onto the upper notches of the mounting plate.Move the body from side to side to verify its secure fixing.
- In order to fix the body onto the mounting plate, hold up the body aslant from the under side and then put it down perpendicularly.

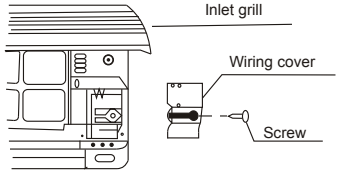


4 Connecting the Indoor/Outdoor Electric Cable

[Cautions]

1. Make sure it is unit A or unit B, when make wiring.
2. Unit to be connected to stop valve A on outdoor unit is unit A, while the one to be connected to stop valve B is unit B.
3. Refer to wiring diagram.

Removing the wiring cover



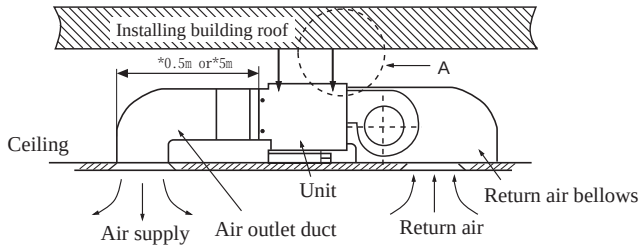
Open the inlet grill ,then remove one screw of the cover.

5.4 Installation of ceiling concealed type

Installation of indoor unit

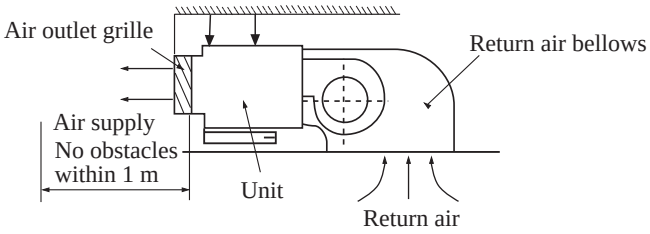
- When installing the ceiling concealed type indoor unit, a specially designed return air bellows shall be installed, as shown in Figure 3, Figure 4.

Figure 3



Detail A

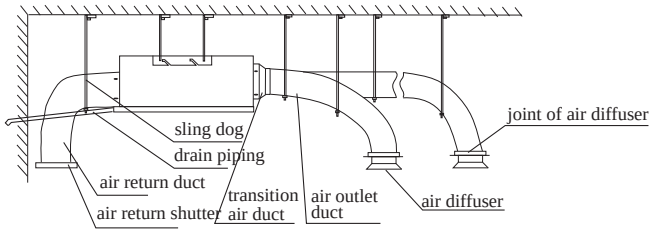
Figure 4



- Each air return and supply duct should fix to the floor precast slab by using an iron stand. Use glue to seal the interface closely. Recommend the distance between the air return duct and the wall is more than 150mm.

- The distance between air duct outlet and air conditioner outlet is according to the length of actually installed air duct and in service behavior of the static pressure terminal: Installation sketch map for long and short air duct is showed below, when connect to short air duct, using low static terminal (terminal color is write), the distance between air duct outlet and air conditioner outlet is no more than 0.5m; when connect to long air duct, using middle static terminal (terminal color is red), the distance between air duct outlet and air conditioner outlet could be within 5m at this point.

Figure 5



- Drain piping of condensed water should keep a downhill grade of 1% or more. Use insulating pipe to cover the drain piping of condensed water to keep warmth.

- As figure shown, suspend and install the unit.

Figure 6

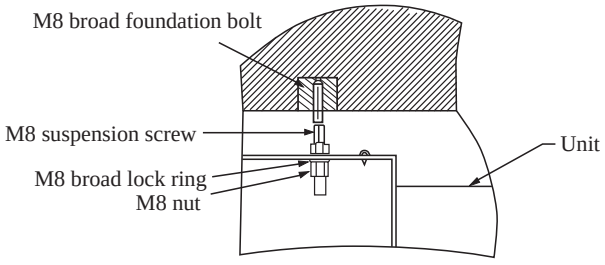


Figure 5

Installation for air duct of indoor unit

1. Installation for air supply duct

- This type of unit uses circular air duct with its caliber of 180mm.
- An additional transitive air duct is necessary for the circular air duct to connect to the air supply inlet. It should be also connected to its respective air diffuser separately. See Fig.1. Adjust the wind speed of each air diffuser outlet to keep in line on the whole, so as to meet a demand of the air conditioner in the room.

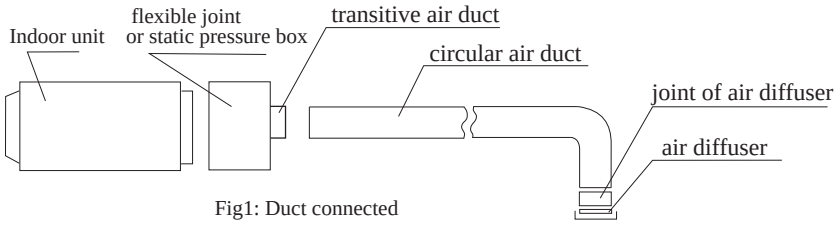


Fig1: Duct connected

2. Installation for air return duct

- Use rivets to connect the air return duct to the air return inlet of the indoor unit. The other end connects to the air return shutter. as shown in Fig.2.

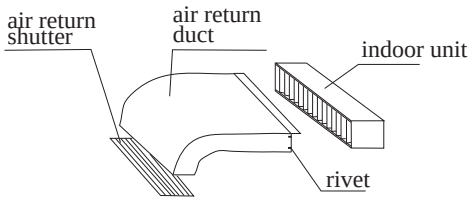
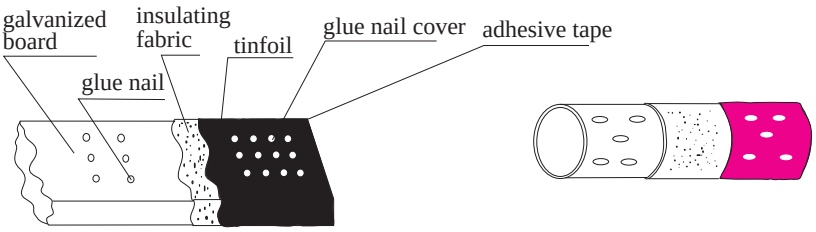


Fig2: Duct return connected

3. Air duct insulation

- Insulation layer is needed for air supply and return duct. First, paste a glue nail to the air duct, and then attach the insulation cotton that has a tinfoil layer and use the glue nail cover to fix. Finally, seal the air duct interface with tinfoil adhesive tape closely. as shown in Fig3.

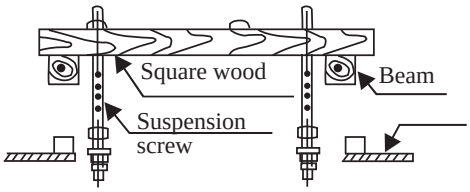


Installing the suspension screw:

Use M8 or M10 suspension screws (4, prepared in the field) (when the suspension screw height exceeds 0.9 m, M10 size is the only choice). These screws shall be installed as follows with space adapting to air conditioner overall dimensions according to the original building structures.

Wooden structure

A square wood shall be supported by the beams and then set the suspension screws.

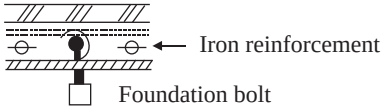


New concrete slab

To set with embedded parts, foundation bolts etc.

Knife embedded part

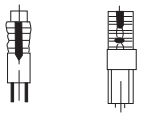
Guide plate embedded part



Pipe suspension foundation bolt

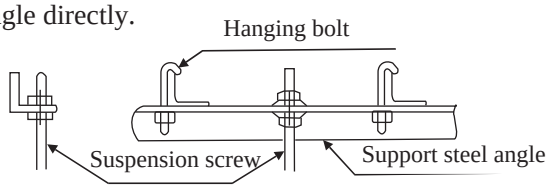
Original concrete slab

Use hole hinge, hole plunger or hole bolt.



Steel reinforcement structure

Use steel angle or new support steel angle directly.



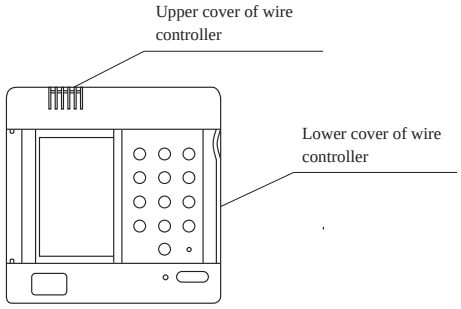
Hanging of the indoor unit

- Fasten the nut on the suspension screw and then hang the suspension screw in the T slot of the suspension part of the unit.
- Aided with a level meter, adjust level of the unit within 5 mm.

1. Remove upper cover of wire controller

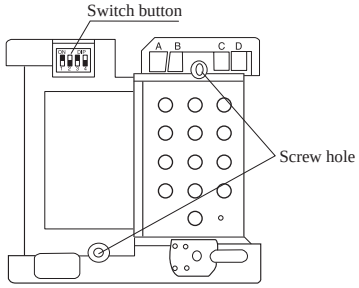
Remove upper part of wire controller by press.

PCB is mounted on lower part of wire controller, be careful not to damage it.



2. Install the wired remote controller

Please drill two holes on the wall according to the back cover screw hole position of the wire remote controller, then strike the wood block to the holes respectively, then align the 2 screw hole of the wire controller back cover to the wood block, fasten the wire reote controller to the wall use wood screws.



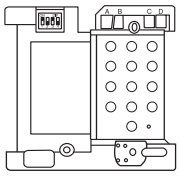
3. Switch setting

The switchs setting as follows:1.ON 2.OFF 3.ON 4.OFF

Note

Try as far as possible a flat surface for installation. Don't use excessive force when tightening screws, or lower part might got deformed.

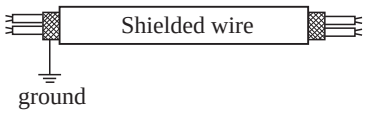
4. Connecting method as the following chart



Back cover of the wire controller

No	Symbol	colour	contents
1	A	White or Green	12V
2	B	Red	Gnd
3	C	Yellow	COM
4	D	——	——

- Use shielede wires for telecommunication between wire controller and indoor unit; indoor unit and outdoor unit. Ground the shield on one side.
  Otherwise misoperation because of noise may occur.
- Signal wire is self-provided by user.



5. Replace the upper cover of wire controller

Be careful not to hold down the wiring.

Hint 1. Power supply switch and signal wire should be prepaired by the user.

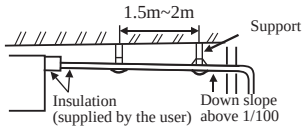
2. Don't touch PCB with hand.

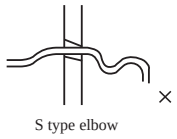
⚠Caution

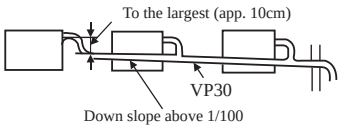
- In order to drain water normally, the drain pipe shall be processed as specified in the installation manual and shall be thermal insulated to avoid dew generation. Improper hose connection may cause indoor water leakage.

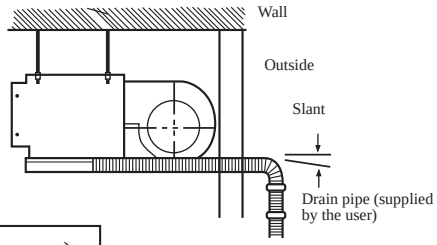
Requirements

- The indoor drain pipe shall be thermal insulated.
- The connection part between the drain pipe and the indoor unit shall be insulated so as to prevent dew generation.
- The drain pipe shall be slant downwards (greater than 1/100). The middle part shall not be of S type elbow, otherwise abnormal sound will be produced.
- The horizontal length of the drain pipe shall be less than 20 m. In case of long pipe, suppo-rts shall be provided every 1.5 ñ 2m to prevent wavy form.
- Central piping shall be laid out according to the following figure.
- Take care not to apply external force onto the drain pipe connection part.









Pipe and insulation material

Pipe	Rigid PVC pipe VP31.5mm (internal diameter)
Insulation	Foamed PE with thickness above 7mm

Hose

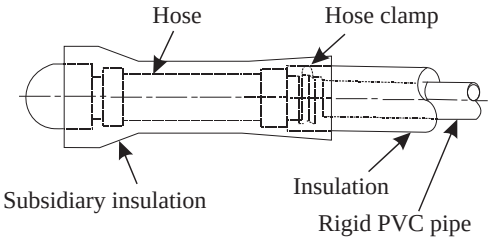
Drain pipe size: ÿ 19.05mm² (3/4") PVC pipe

The hose is used for adjusting the off-center and angle of the rigid PVC pipe.

- Directly stretch the hose to install without making any deformation.
- The soft end of the hose must be fastened with a hose clamp.
- Please apply the hose on horizontal part

sulation treatment:

- Wrap the hose and its clamp until to the indoor unit without any clearance with insulating material, as shown in the figure.



Drain confirmation

During trial run, check that there is no leakage at the pipe connection part during water draining even in winter.

Installation Procedure

Allowable pipe length and drop

These parameters differ according to the outdoor unit. See the instruction manual attached with the outdoor unit for details.

Pipe material and size

Pipe material	Phosphorus deoxidized copper seamless pipe (TP_2M) for air conditioner			
Model		AE072-	AE092-	AE122-
Pipe size (mm)	Gas side	12.7	12.7	12.7
	Liquid side	6.35	6.35	6.35

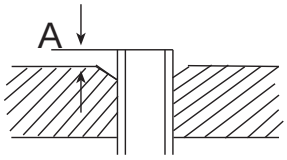
Supplementary refrigerant

The refrigerant supplementation shall be as specified in the installation instructions attached with the outdoor unit. The added refrigerant shall be R22.

The adding procedure shall be aided with a measuring meter for a specified amount of supplemented refrigerant

Requirement

Overfilling or underfilling of refrigerant will cause compressor fault. The amount of the added refrigerant shall be as specified in the instructions.



Pipe expander

Connection of refrigerant pipe

Conduct flared connection work to connect all refrigerant pipes.

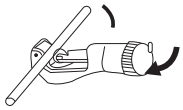
Pipe cutting and expanding

If the pipe is too long or the flare is damaged, it needs to be cut or expanded.

Pipe expansion dimensions as follows:

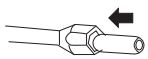
Pipe diameter ÿ	Size A (mm)
6.35 mm (1/4")	0.8 ~ 1.5
9.52 mm (3/8")	1.0 ~ 1.8
12.7 mm (1/2")	1.2 ~ 2.0
15.88 mm (5/8")	1.4 ~2.2

1. Pipe cutting



2. Removing burrs

3.Insertion nut

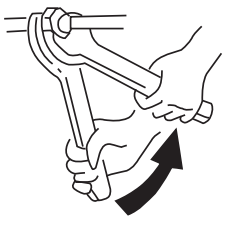


4. Pipe expansion

Correct	Incorrect				
	Slope	Damage	Bur	Partial	Overlong

- The connection of indoor unit pipes must use double spanners.
- The installing torque shall be as given in the following table.

Connecting pipe O.D.(mm)	Installing torque (N-m)	Increased installing torque (N-m)
6.35	11.8 (1.2kgf-m)	13.7 (1.4 kgf-m)
9.52	24.5 (2.5kgf-m)	29.4 (3.0 kgf-m)
12.70	49.0 (5.0 kgf-m)	53.9 (5.5 kgf-m)
15.88	78.4 (8.0 kgf-m)	98.0 (10.0 kgf-m)



Double-spanner operation

Vacuum pumping

With a vacuum pump, create vacuum from the stop valve of the outdoor unit.

- Emptying with refrigerant sealed in the outdoor unit is absolutely forbidden.

Open all valves

Open all the valves on the outdoor unit.

Gas leakage detection

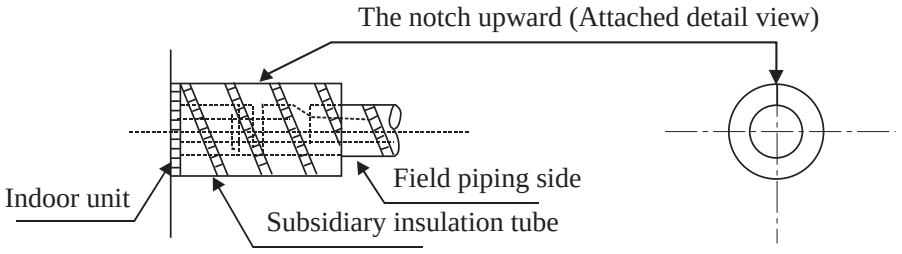
Check with a leakage detector or soap water that if there is gas leakage at the pipe connections and bonnets.

Insulation treatment

Conduct insulation treatment on both the gas side and liquid side of pipes respectively.

During cooling operation, both the liquid and gas sides are cold and thus shall be insulated so as to avoid dew generation.

- The insulating material at gas side shall be resistant to a temperature above 120*.
- The indoor unit pipe connection part shall be insulated.



Installation Procedure

⚠Warning

- The electric wiring work shall be conducted by qualified electricians according to the installation instructions. A separate power circuit shall be used. Insufficient power cord amperage or improper wiring will cause danger of electric shock or fire.
- During wiring connection, the power cord shall be of the specified cable and reliably fastened so that external forces applied to the cable wouldnt transfer to the terminals. Improper connection or fastening will cause danger of heating, fire etc.The power cord must be fitted with a grounding wire.
- Grounding shall be made as specified. Unreliable grounding will cause electric shock. The grounding wire shall not be connected to the gas pipeline, water pipeline, thunder arrestor and telephone wire

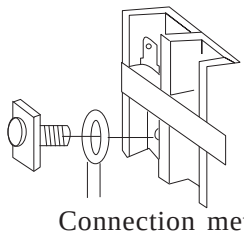
⚠Caution

- A current leakage breaker shall be installed, otherwise it electric shock would happen easily.
- If the power cord is damaged, it must be replaced by the manufacturer or its service center or similar personnel to avoid risks. The power supply to the indoor unit shall be laid in complying with the operational instruction manual.
- The electric wiring shall avoid contacting with the high temperature part of the piping so as to prevent the cable insulation melts and cause dangers.
- After connected on the terminal block, the wires shall be bent to U form and then fastened with wire clip.
- The control wiring and refrigerant piping may be laid and fastened together.
- Before completion of vacuum pumping of the refrigerant pipe system, do not electrify the indoor unit.
- The power cord of the indoor unit and connection wiring between indoor and outdoor units shall be laid out according to the operational instruction manual of the indoor unit.
- The connection of the power cord shall comply with the local regulations.
- The power supply wiring connection should meet the local regulation.

Wiring connection method : (the wiring diagram is attached inside the machine)

1) Ring terminal connection method

If there is a ring at the end of the connection wire, the wire connection method is as shown in the right figure. Remove the terminal screw and insert it through the ring at the connection wire end, then connect to the terminal board and fasten the screw.



Connection method for ring terminal

2) Straight terminal connection method

If there isnt a ring at the end of the connection wire, the connection method shall be: loosen the terminal screw, insert the connection wire end completely into the terminal board and fasten the screw. Pull the connection wire outwards slightly to confirm it is clamped tightly.

3) Clamping method of the connection wire

After wire connection is finished, the connection wire must be pressed tightly with wire clips, which shall apply to the outer sheath of the connection wire.

Wire connection for built-in indoor unit

- Insert from outside the connection wire and signal transmission wire through the wall hole with pipeline already arranged.
- Pull out the front ends of connection wire and signal wire and make a circle on the signal wire.
- Connect the connection wire according to the connection method and indoor and outdoor wiring diagram.
- Pull the connecting conductor outwards slightly to confirm it is clamped tightly.
- Connect the plug for connecting the signal wire with the plug of the signal wire connected from the indoor unit.
- After wire connection is finished, install wire clips using the same method for connection wire clamping.

  Note: When connecting the indoor unit and the outdoor unit, please do connect the wires with the same color terminals.

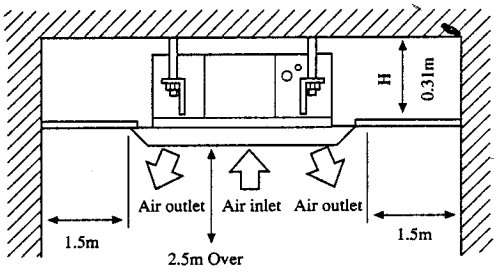
Notes:

- Before connecting the conductors between indoor unit and outdoor unit, check for the number on the indoor and outdoor units connecting terminals. Connect the terminals with the same color and number with a wire.
- Wrong connection would damage the controller of the air conditioner or the machine couldnt operate.
- Do not connect the connection wire and signal wire with the same cable. They shall be connected respectively to ensure system normal operation.

5.5 Installation of cassette type (AB092~AB142)

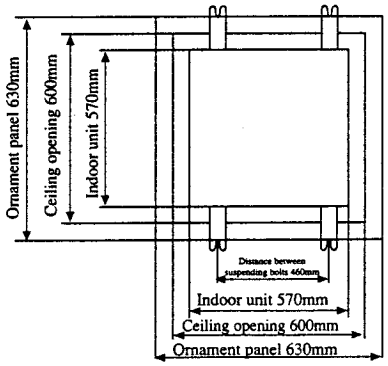
I Selection of Installation Place

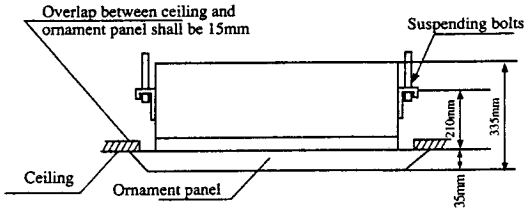
(1) Place above the ceiling where have enough space to arrange the unit.
(2) Place where the drainage pipe can be arranged well.
(3) Place where inlet and outlet air of indoor and outdoor unit will not be blocked.
(4) Do not expose the unit to the place with heavy oil or moisture (e.g. kitchen and workshop).
(5) Do not set the unit in the place where destructive gas (such as sulfuric acid gas) or pungent gas (thinner and gasoline) concentrates and retains.
(6) Place strong enough to support the unit weight.
(7) No expensive articles such as television and piano below indoor unit.
(8) Enough space for maintenance.
(9) Place more than 1m away from television and radio to avoid disturbing television and radio.
(10) Easy for maintenance.



II Installation Preparation

(1) Position of ceiling opening between unit and suspending bolt (front view of unit).



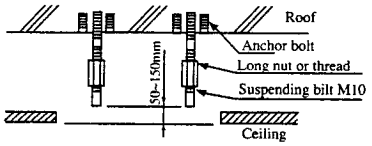


(2) Prepare all piping (refrigerant, water drainage) and wires (connection wire of remote controller, indoor unit connection wires) to the indoor unit before installation in order to connect indoor unit immediately after installation.

(3) Install a suspending bolt

To support the unit weight, anchor bolt should be used in the case of already exists ceiling. For new ceiling, use flush-in type bolt, built-in type bolt or parts prepared in the field.

Before going on installing, adjust space to ceiling.



Note: All the above mentioned parts shall be prepared in feild, the diameter of suspending bolt is M10

<Installation Example>

Installation of indoor unit

In case of no ceiling

Install unit temporally

Put suspending bracket on the suspending bolt to hang the unit up. Be sure to use nut and washer at both end of the bracket to secure it firmly.

After installation on the ceiling

(1) Adjust unit to its right position. (Refer to preparation for installation- (1))

(2) Check that unit is horizontal.

- Water pump and floating switch is installed inside indoor unit, check four corners of the unit for its level using horizontal comparator or PVC tube with water. (If unit is tilting against the direction of water drainage, problem may occur on floating switch, causing water leakage.)

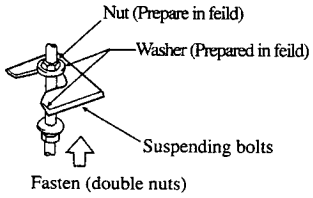
In the case of ceiling already exists

(1) Install unit temporally

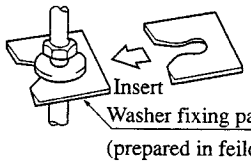
- Put suspending bracket on the suspending bolt to hang the unit up. Be sure to use nut and washer at both end of the bracket to secure it firmly.

(2) Adjust the height and position of the unit.

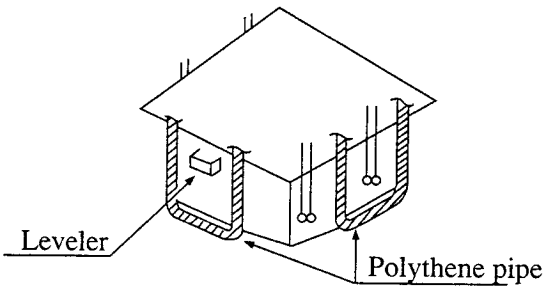
(3) Proceed with procedure (4) of "In the case of no ceiling".



[secure the suspending bracket firmly]



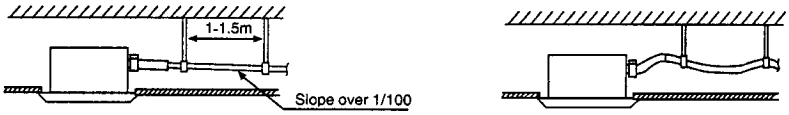
secure the washer firmly]



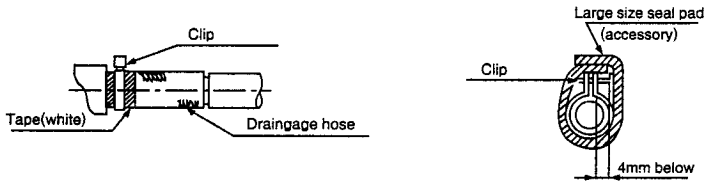
III Installation of Water Drainage Pipe

(1) Install water drainage pipe

- Pipe diameter shall be equal or larger than that of connecting pipe. (Pipe of polythene; size: 25mm; O.D: 32mm).
- Drainpipe should be short, with a downward slope at least 1/100 to prevent air bag from forming.
- If downward slope of drainpipe cannot be made, lifting pipe shall be installed.
- Keep a distance of 1-1.5m between suspending bolts, to make water hose straight.

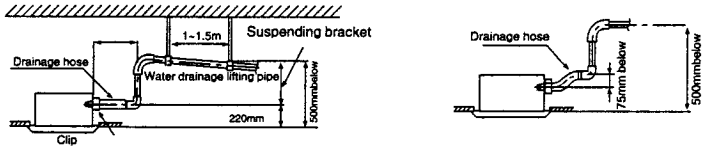


- Use the drainage hose and clip provided with unit.
  Insert water pipe into water plug until it reaches the white tape.
  Tighten the clip until head of the screw is less than 4mm from hose.
- Wind the drainage hose to the clip using seal pad for heat insulation.
- Insulate drainage hose in the room.



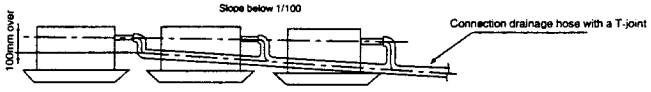
Cautions for the water drainage lifting pipe

- Installation height of water drainage lifting pipe shall be less than 280mm
- There should be a right angle with unit, 300mm from unit.



<Note>

- The slope of water drainage hose shall be within 75mm, make the drainage plug not to bear excessive force.
- If several water hoses join together, do as per following procedures.



Specifications of the selected drainage hoses shall meet the requirements for the unit running.

IV Installation of Ornament Panel

Install ornament panel on indoor unit

(1) Check whether indoor unit is horizontal with leveler or polythene pipe filled with water, and check that the dimension of the ceiling opening is correct. Take off the level gauge before install the ornament panel.

(2) Fasten the screws to make the height difference between the two sides of indoor unit less than 5mm.

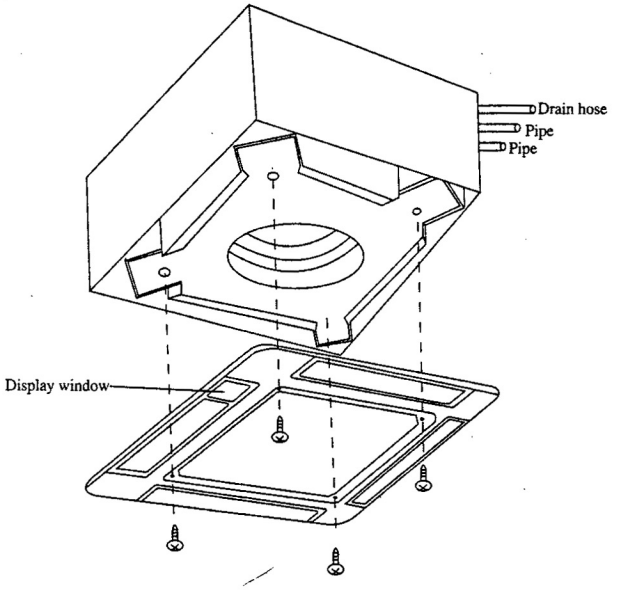
(3) First fix it with screws temporally.

(4) Fasten the two temporally fixing screws and other two, and tighten the four screws.

(5) Connect the wires of synchro-motor.

(6) Connect the wire of signal.

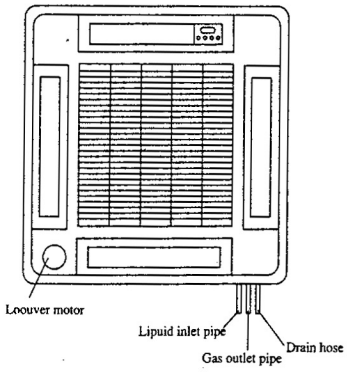
(7) If no response of remote controller, check whether the wiring is correct, restart remote controller 10seconds after shut off power supply.



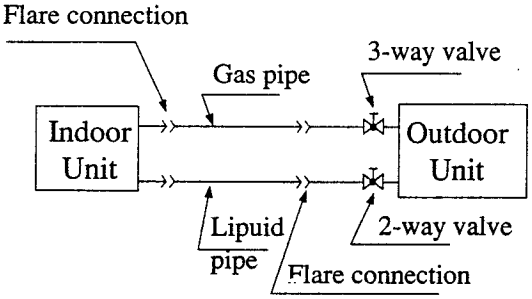
Limits of panel board installation

(1) Install the panel board in the direction shown in the figure.

(2) The incorrect direction will result in water leakage, meanwhile swing and signal receiving are displayed that cannot be connected.



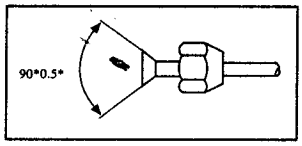
Piping Connection



(1) Dimension of connecting pipe

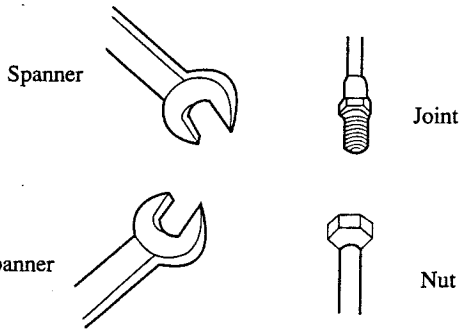
Gas pipe	Φ 12.7mm
Liquid pipe	Φ 6.35mm

- Fit the nut on and fasten.



(2) The maximum length and drop height of connecting pipe

- The maximum length is 10m.
- The maximum drop height is 5m
- To ensure the efficiency, pipes shall be as short as possible.



Cautions for piping connection

- Do not twist or deform the connecting pipe.
- Do not mix dusts.
- The bending radius shall be as large as possible.
- Both gas pipe and liquid pipe shall be heat insulation.
- No leakage in the flare.

Diameter of Pipe	Tighten Torque
Liquid Pipe 6.35mm	18 N.m
Gas Pipe 12.7mm	50 N.m

(3) Piping connection

- Connecting method

Smear refrigerant oil on the joints of piping and flare.
The bending radius shall be as large as possible.
Align the pipe center when fastening, and tighten the nut, as shown in the figure.
Pay attention to not mix foreign matters such as sands in.

If not aligned, tighten the nut by force will damage the nut that result in gas leakage.

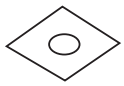
5 INSTALLATION INSTRUCTIONS (For cassette type)

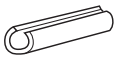
5.1 Installation tools

1. Cross screwdriver 2 .Metal saw 3 .60,70mm drill 4. Inner hexagon spanner, shifting spanner 5 .Spanner(14, 17, 19,24,27mm diameter) 6. Pipe cutter 7. Pipe expander 8. Knife 9 .Pliers 10. Leak detector or soap liquor 11. Measuring tape 12 .Scraper 13. Refrigeration oil 14 .Vacuum pump 15 .Flat screwdriver

5.2 Standard accessories

Please check if your unit is delivered with following

Part name	① Clamp	② Washer	③ Clamp	④ Drain hose	⑤ Paper pattern	⑥ Screw(M5 size)
QTY	2 Piece	8 Piece	6 Piece	1 Piece	1 Set	3 Piece
Shape						For installation of paper pattern

Part name	⑦Insulator	⑧Insulator	⑨Dry battery	⑩Sealing pad	⑪Sealing pad	⑫Sealing pad	[Other]
QTY	1 Piece	1 Piece	2 Piece	1 Piece	1 Piece	2 Piece	
Shape	For gas pipe 	For liquid pipe	R03, 7#	Large size	Medium size	Small size	● Operation Manual ● Ornament panel ● Remote controller

5.3 Installation of indoor unit

5.3.1 Before installation

- Determine the way kto carry unit to installation place.
- Don't remove packing until unit reaches installation place. If unpacking is unkavoidable, protect unit properly.

5.3.2 Selection of installation place

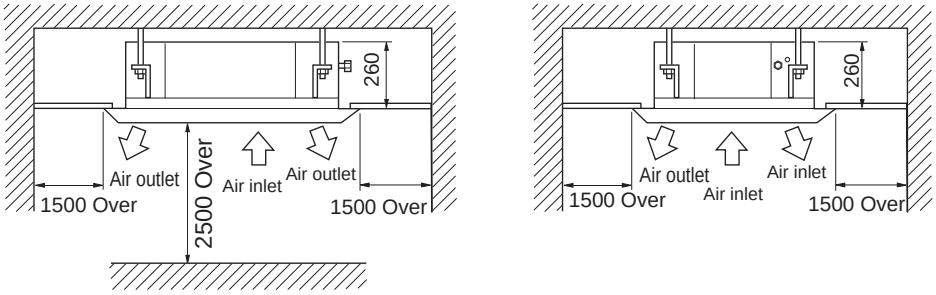
(1) Installation place shall meet the following and agreed by customers:

- Place where proper air flow can be ensured.
- No block to air flow.
- Water drainage is smpoth.
- Place strong enough to support unit weight.
- Place where inclination is not evident on ceiling.
- Enough space for mainenance.
- Indoor and outdoor unit piping length is within limit. (Refer to Installation Manual for outdoor unit.)
- Indoor and outdoor unit, power cable, inter unit cable are at least 1 m away fromT.V. radio. This is helpful to avoid picture disturbance and noise. (Even if 1 m is kept, noise can still appear if radio wave is strong)

(2) Ceiling height
Indoor unit can be installed on ceiling of 2.5-3m in height. (Refer to ❽ Foeld setting and Installation Manual of ornament panel.)

(3) Install suspending bolt. Check if the installation place is strong enough to hold weight. Take necessary measures in case it is not safe. (Distance between holes are marked on paper pattern. Refer to paper pattern for place need be reinforced)

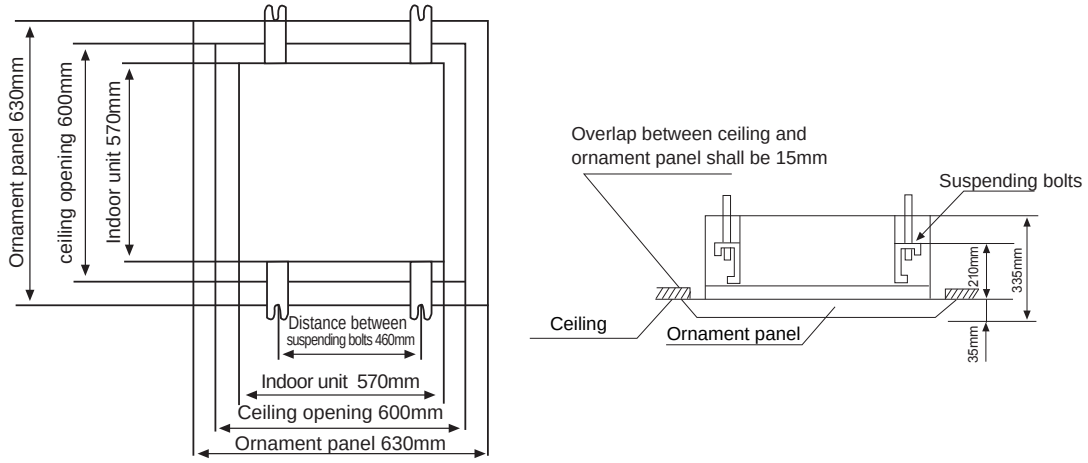
Installation space



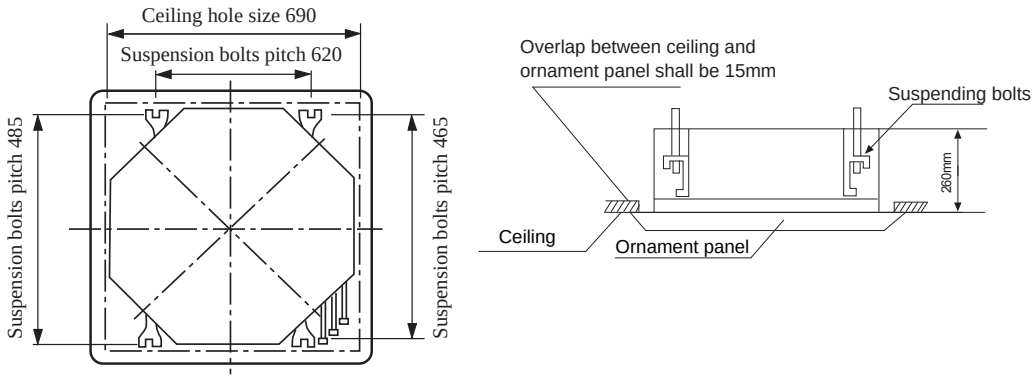
5.3.3 Preparation

(1) Position of ceiling opening between unit and suspending bolt. Unit: mm

AB092~AB142



H AB182-



(2) Cut an opening in ceiling for installation if necessary. (when ceiling already exists.)

- Refer to paper pattern for dimension of ceiling hole.
- Connect all pipings (refrigerant, water drainage), wirings (inter unit cable) to indoor unit, before installation.
- Cut a hole in ceiling, may be a frame should be used to ensure a smooth surface and to prevent vibration. Contact your real estate dealer

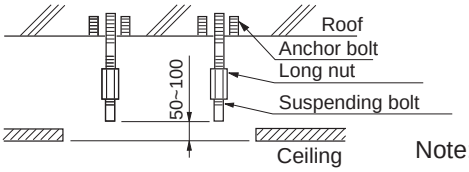
(3) Install a suspending bolt.

(Use a M10 bolt)

To support the unit weight, anchor bolt shall be used in the case of already exists ceiling. For new ceiling, use built-in type bolt or parts prepared in the field.

Before going on installing adjust space between ceiling.

<Installation example>



Note: All the above mentioned parts shall be prepared in field.

5.3.4 Installation

In the case of new ceiling

(1) Install unit temporally
- Put suspending bracket on the suspending bolt. Be sure to use nut and washer at both ends of the bracket.

(2)
- As for the dimensions of ceiling hole, see paper pattern. Ask your real estate dealer for details.
- Center of the hole is marked on the paper pattern.
  Center of the unit is marked on the card in the unit and on the paper pattern.
- Mount paper pattern ④ onto unit using 3 screws ⑤ Fix the corner of the drain pan at piping outlet.

< After installation on the ceiling >

(3) Adjust unit to its right position. (Refer to preparation for the installation-(1))

(4) Check unit's horizontal level.
- Watert pump and flating switch is installed inside indoor unit, check four corners of the unit for its level using horizontal compartor or PVC tube with water. (If unit is tilting against the direction of water drainage, problem may occur on floating switch, causing water leakage.)

(5) Remove the washer mounlting ⑦ , and tighten the nut above.

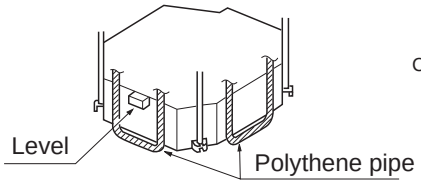
(6) Remove the paper pattern.

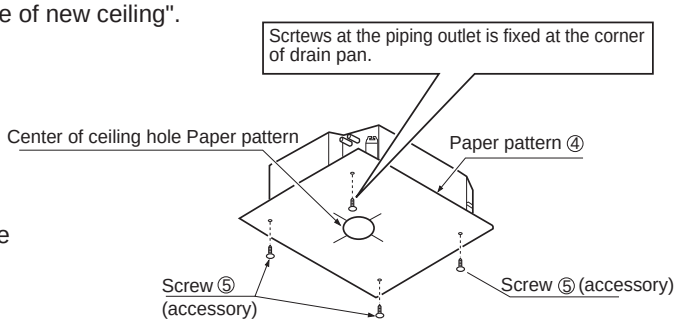
In the case of ceiling already exists

(1) Install unit temporally
- Put suspending bracket on the suspending bolt. Be sure to use nut and washer at both ends of the bracket. Fix the bracket firmly.

(2) Adjust the height and position of the unit. (Refer to preparation for the installation (1)).

(3) Proceed with ③ and ④ of "In the case of new ceiling".




Scrtews at the piping outlet is fixed at the corner of drain pan.
Center of ceiling hole Paper pattern
Paper pattern ④
Screw ⑤ (accessory)
Screw ⑤ (accessory)

[Fix the paper pattern]

5.3.5 Refrigerant piping

As for outdoor piping, please refer to installation Manual of outdoor unit.

- Outdoor is precharged with refrigerant.
- Be sure to see the Fig.1, when connecting and removing piping from unit.
- For the size of the flare nut, please refer to Table 1.
- Apply refrigerant oil at both inside and outsid of lflare nut. Tighten it band tight 3-4 turns then tighten it.
- Use torque specified in Table 1. (Too much force may damage flare nut, causing gas leakage).
- Check piping joints for gas leakage. Insulate piping as shown in Fig. below.
- Cover joint of gas piping and insulator⑥ with seal⑨.

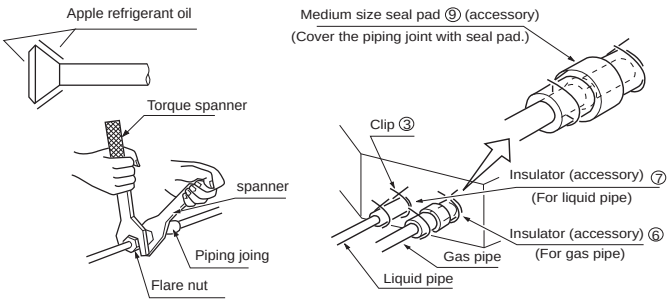


Table 1

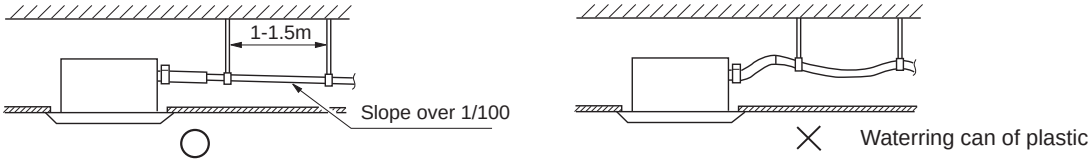
Pipe size	Tighten torque	A(mm)	Flare shape
Φ9.52	3270~3990N·cm (333~407kgf·cm)	12.0~12.4	90°±0.5° 45°±2° A R0.4 ~ 0.8
Φ15.88	6180~7540N·cm (630~770kgf·cm)	18.6~19.0	
Φ19.05	9720~11860N·cm (990~1210kgf·cm)	22.9~23.3	

Diameter of Pipe	Tighten Torque
Liquid Pipe 6.35mm	18N.m
Gas Pipe 12.7mm	50N.m

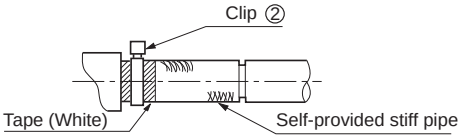
5.3.6 Installation of drainage pipe

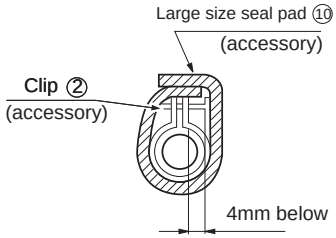
(1) Install water drainage pipe

- Pipe dia, shall be equal or larger than that of unit piping.(pipe of polyethylent; size: 25mm; O.D:32mm)
- Drain pipe should be short, with a downward slope at least 1/100 to prevent air bag from happening.
- If downward slope can't be made, take other measures to lift it up.
- Keep a distance of 1-1.5m between suspending brackets, to make water hose straight.



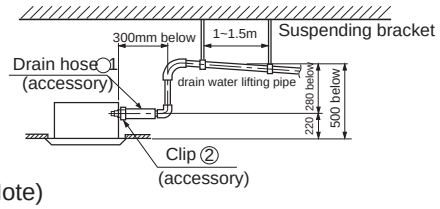
- Use the self-provided stiff pipe and clip ②with unit. Insert water pipe into water plug until it reaches the white tape. Tighten the clip until head of the screw is less than 4mm from hose.
- Wind the drain hose to the clip using seal pad ⑧. Insulate drain hose in the room.

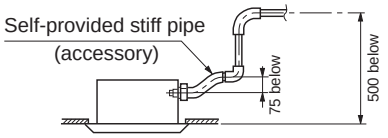




<Cautions for the drain water lifting pipe>

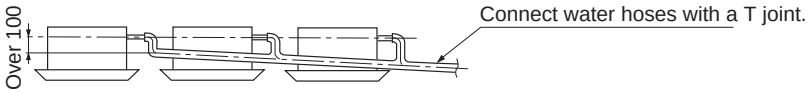
- Installation height shall be less than 280mm.
- There should be a right angle with unit, 300mm from unit.





(Note)

- The slope of water drain hose (1) shall be within 75mm, don't apply too much force on it.
- If several water hoses join together, do as per following proceedures.



Specifieations of the water hoses shall meet the requirements for the unit running.

(2) Check if water drainage is smooth after installation.

- Charge, through air outlet or inspecting hole, 1200ccd water to see water drainage.

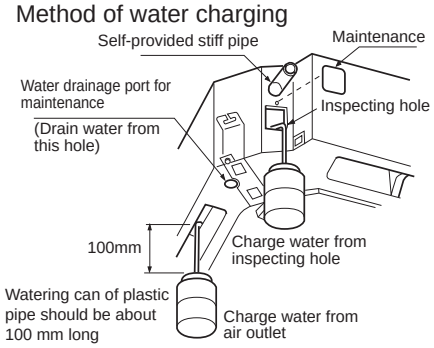
After wiring

- Check water drainage in cooling operation. See also ⑪ test run.

When wiring is not complete

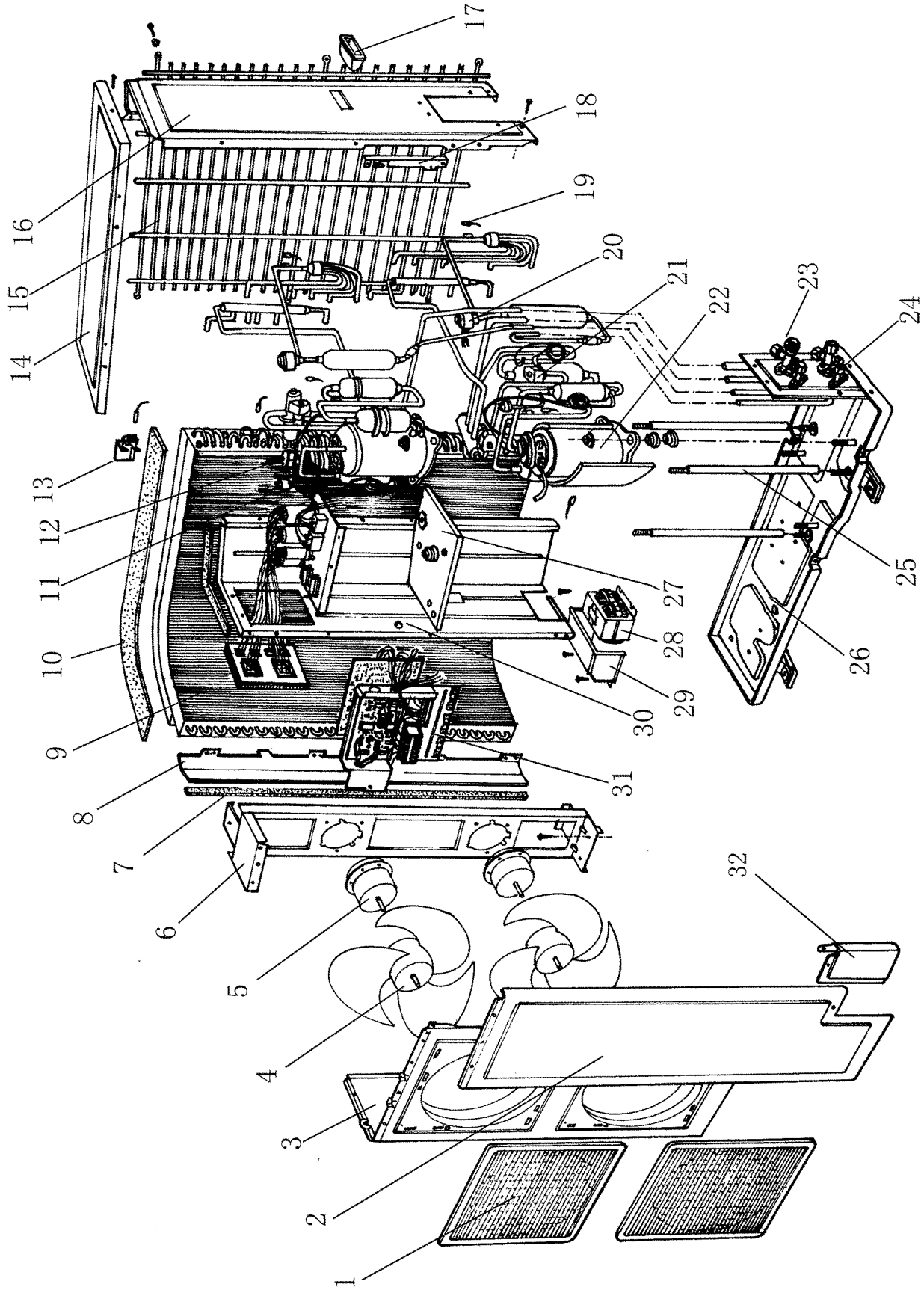
- Remove cover of control box, short connect "CHECK" terminal of the indoor unit, which is on the uper part of indoor unit PCB. Connect 1PH power to terminal 1 and 2 on terminal block.
- Note, in this operation, fan will be running.
- Upon confirmation of a smooth water drainage, be sure to cut off power supply andremove short connection of "CHECK" terminal.

Method of water charging


Self-provided stiff pipe
Maintenance
Water drainage port for maintenance
(Drain water from this hole)
Inspecting hole
100mm
Charge water from inspecting hole
Watering can of plastic pipe should be about 100 mm long
Charge water from air outlet

9 EXPLODED VIEWS & PART LISTS

9.1 Model: AU422FIAHA / AU422FIAIA / AU422FIBIA



AU422FIAHA / AU422FIAIA

No.	Specialized Number	Name	Quantity
1	001A0100122	Front guard assy	2
2	001A0100493	Service panel assy	1
3	001A1301640	Front panel	1
4	001A5402022	Axial fan	2
5	001A3000201	Outdoor motor	2
6	001A0100826	Motor braket assy	1
7	001A17421215	Pole foam	1
8	001A1301469	Pole	1
9	001A0400132	Condenser assy	1
10	001A17341206	Rubber pad.	1
11	001A3800138	Pressure switch	1
12	001A2500094	Electromagnetic valve winding A	1
13	001A5736055	Ambient temp.sensor nip	1
14	001A0100827	Top cover assy	1
15	001A0100495	Back guard assy	1
16	001A0100494	Right panel assy	1
17	001A1436160	Handle	1
18	001A1301465	Fix plate	1
19	001A3800105	Sensor of B system	1
20	001A2500087	Winding B of PMV	1
21	001A2500095	Electromagnetic valve winding B	1
22	001A2000128	Compressor	2
23	001A2500098	2-way stop valve	1
	001A2500099	2-way stop valve	1
24	001A2500100	3-way stop valve	1
	001A2500101	3-way stop valve	1
25	001A1301685	Pole	3
26	001A0100497	Bottom assy	1
27	001A13011200.	Braket for compressor	1
28	001A3800097	Reactor	1
29	001A1301470	Reactor cover	1
30	001A0100496	Partition plate	1
31	001A0600400	Cover of electrical box	1
32	001A1301464	Supporting plate	1

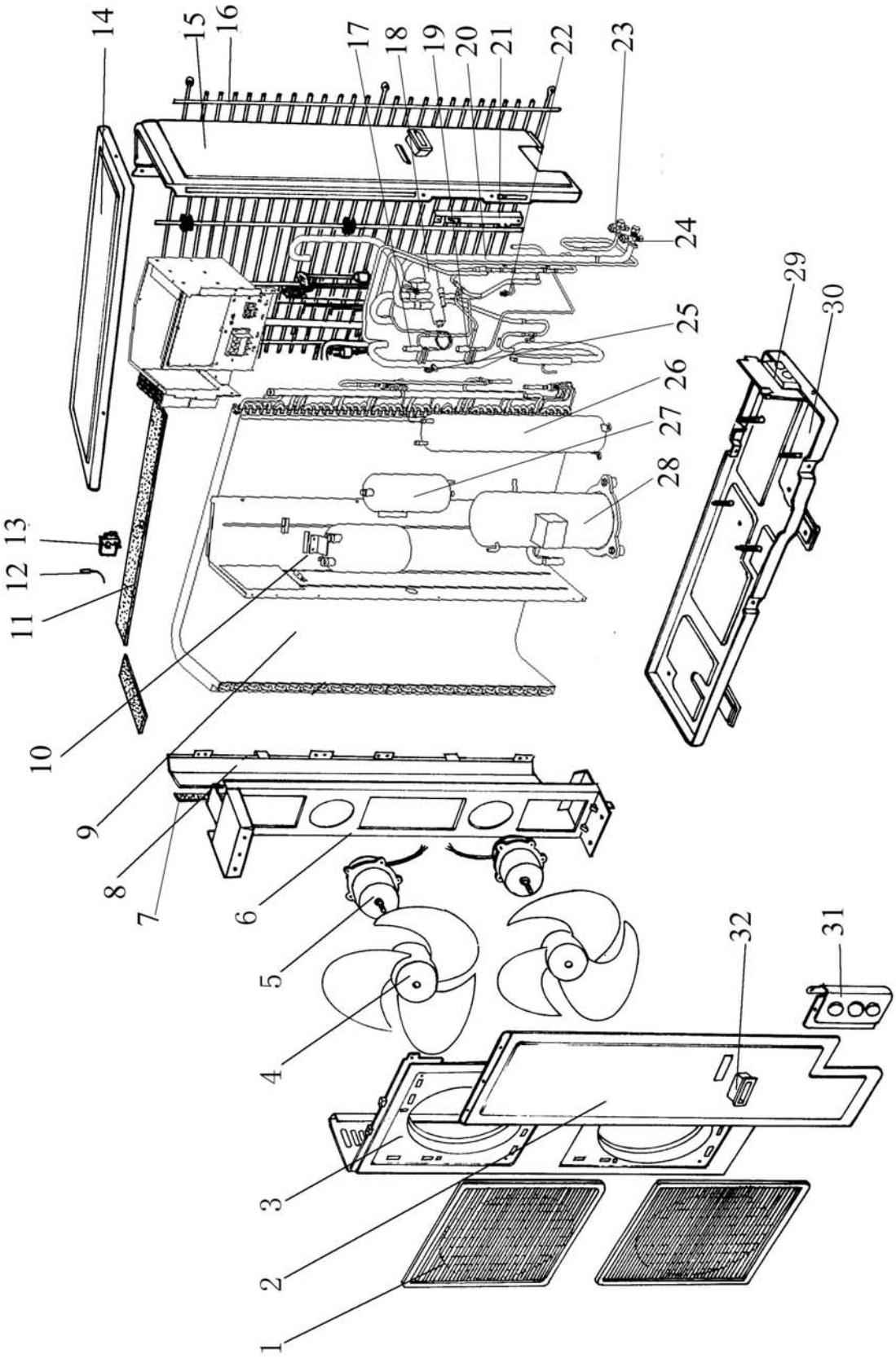
AU422FIAIA

30	0010800808	Partition plate	1

AU422FIBIA

No.	Specialized Number	Name	Quantity
1	001A0100122	Front guard assy	2
2	001A0100493	Service panel assy	1
3	001A1301640	Front panel	1
4	001A5402022	Axial fan	2
5	001A3000201	Outdoor motor	2
6	001A0100826	Motor braket assy	1
7	001A17421215	Pole foam	1
8	0010150076	Pole	1
9	0010750925	Condenser assy	1
10	001A17341206	Rubber pad.	1
11	001A3400138	Pressure switch	1
12	001A2500094	Electromagnetic valve winding A	1
13	001A5736055	Ambient temp.sensor nip	1
14	001A0100827	Top cover assy	1
15	001A0100767	Back guard assy	1
16	001A0100494	Right panel assy	1
17	001A1436160	Handle	1
18	001A1301465	Fix plate	1
19	001A3800105	Sensor of B system	1
20	001A2500087	Winding B of PMV	1
21	001A2500095	Electromagnetic valve winding B	1
22	0010750904	Compressor	2
23	0010750966	2-way stop valve	1
	0010750968	2-way stop valve	1
24	0010750967	3-way stop valve	1
	0010750969	3-way stop valve	1
25	001A1301685	Pole	3
26	001A0100497	Bottom assy	1
27	001A13011200	Braket for compressor	1
28	001A3800097	Reactor	1
29	001A1301470	Reactor cover	1
30	0010850202	Partition plate	1
31	001A0600400	Cover of electrical box	1
32	001A1301464	Supporting plate	1

Model: AU482FIAIA / AU48NFIAIA



Parts list

No.	Spare parts number	Spare parts description in English	Qty.	Model	Failure rate	the proportion of the spare-part stock	Remark
1	001A0100122	Front guard assy	2	AU482FIAIA	0.00%	0.000%	×
2	001A1301707	Plate for maintain	1	AU482FIAIA	0.00%	0.000%	×
3	001A1301640	Front panel(left)	1	AU482FIAIA	0.00%	0.000%	×
4	001A5402022	Axial Fan	2	AU482FIAIA	0.02%	0.024%	*
5	001A3000201	Motor	2	AU482FIAIA	0.02%	0.024%	*
6	001A0100498	Motor mounting plate	1	AU482FIAIA	0.00%	0.000%	×
7	001A17421215	PE	1	AU482FIAIA	0.00%	0.000%	×
8	0010150076	vertical plate	1	AU482FIAIA	0.00%	0.000%	×
9	0010750551	Outdoor heat exchanger	1	AU482FIAIA	0.01%	0.012%	
10	0010750761	segregator	1	AU482FIAIA	0.00%	0.000%	×
11	001A1754686	sealed pad	1	AU482FIAIA	0.00%	0.000%	×
12	0010450192	ambient temp. sensor	1	AU482FIAIA	0.00%	0.000%	×
13	001A5736055	clip for sensor	1	AU482FIAIA	0.00%	0.000%	×
14	001A0100827	cover	1	AU482FIAIA	0.00%	0.000%	×
15	001A1101197	right side plate	1	AU482FIAIA	0.00%	0.000%	×
16	001A0100767	guard for heat exchanger	1	AU482FIAIA	0.00%	0.000%	×
17	001A2500127	eletromagnetic valve	1	AU482FIAIA	0.00%	0.000%	×
18	0010450230	4-way valve	1	AU482FIAIA	0.00%	0.000%	×
19	001A2500147	eletronic expansion valve	1	AU482FIAIA	0.00%	0.000%	×
20	0010750580	pipe assy	1	AU482FIAIA	0.00%	0.000%	×
21	001A1301465	fixing plate	1	AU482FIAIA	0.00%	0.000%	×
22	0010450194	high pressure sensor	1	AU482FIAIA	0.00%	0.000%	×
23	0010750476	3-way stop valve	1	AU482FIAIA	0.00%	0.000%	×
24	001A2500116	3-way stop valve	1	AU482FIAIA	0.00%	0.000%	×
25	0010450195	low pressure sensor	1	AU482FIAIA	0.00%	0.000%	×
26	0010750474	high pressure storage	1	AU482FIAIA	0.00%	0.000%	×
27	0010750475	oil segregator	1	AU482FIAIA	0.00%	0.000%	×
28	0010750303	compressor	1	AU482FIAIA	0.06%	0.072%	*
29	001A1301762	valve support plate	1	AU482FIAIA	0.00%	0.000%	×
30	0010150080	bottom plate	1	AU482FIAIA	0.00%	0.000%	×
31	001A1301117	little plate	1	AU482FIAIA	0.00%	0.000%	×
32	001A1436160	handle	1	AU482FIAIA	0.00%	0.000%	×

1,The failer rate and the proportion of the spare-part stock are regarded as the reference of the stock for spare-parts;The first time should be stocked accroded with the proportion of the spare-parts,and it should be adjusted with the actual quantity 3 months later.

2,easy-damaged;The spare-part which is often damaged and the customer must stock in the spare-parts warehouse,and should be marked with"*"

3,possible damaged:The spare-part which is not often damaged like the easy damaged one and the customer may stock in the spare-part warehouse accord with the actual case,should be marked with " ".

4,not need provided :The spare-part which is seldom damaged or the maintenance man could not maitmains.The spare parts may be air freighted by the factory if they were damaged.The customer nees not stock in the spare-part warehouse,should be marked with " x ".

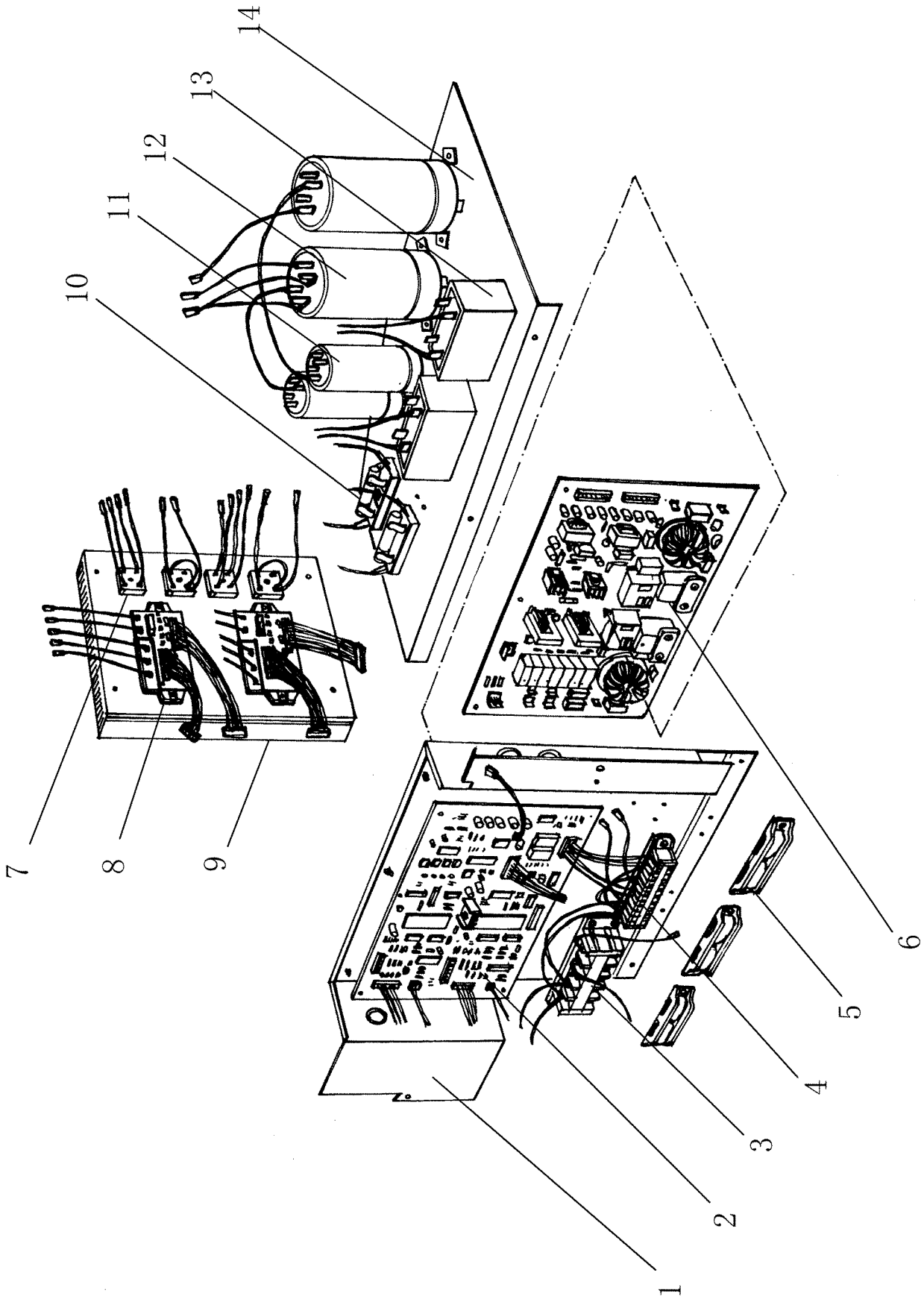
5,Above should be improved accord with the reply of the market half a year per time.

6.The spare parts price on net is FOB Qingdao term.

Parts list

No.	Spare parts number	Spare parts description in English	Qty.	Model	Failure rate	the proportion of the spare-part stock	Remark
1	001A0100122	Front guard assy	2	AU48NFIAIA	0.00%	0.000%	×
2	001A1301707	Plate for maintain	1	AU48NFIAIA	0.00%	0.000%	×
3	001A1301640	Front panel(left)	1	AU48NFIAIA	0.00%	0.000%	×
4	001A5402022	Axial Fan	2	AU48NFIAIA	0.02%	0.024%	*
5	001A3000201	Motor	2	AU48NFIAIA	0.02%	0.024%	*
6	001A0100498	Motor mounting plate	1	AU48NFIAIA	0.00%	0.000%	×
7	001A17421215	PE	1	AU48NFIAIA	0.00%	0.000%	×
8	0010150076	vertical plate	1	AU48NFIAIA	0.00%	0.000%	×
9	0010751389	Outdoor heat exchanger	1	AU48NFIAIA	0.01%	0.012%	
10	0010750761	segregator	1	AU48NFIAIA	0.00%	0.000%	×
11	001A1754686	sealed pad	1	AU48NFIAIA	0.00%	0.000%	×
12	0010450192	ambient temp. sensor	1	AU48NFIAIA	0.00%	0.000%	×
13	001A5736055	clip for sensor	1	AU48NFIAIA	0.00%	0.000%	×
14	001A0100827	cover	1	AU48NFIAIA	0.00%	0.000%	×
15	001A1101197	right side plate	1	AU48NFIAIA	0.00%	0.000%	×
16	001A0100767	guard for heat exchanger	1	AU48NFIAIA	0.00%	0.000%	×
17	001A2500127	eletromagnetic valve	1	AU48NFIAIA	0.00%	0.000%	×
18	0010450230	4-way valve	1	AU48NFIAIA	0.00%	0.000%	×
19	001A2500147	eletronic expansion valve	1	AU48NFIAIA	0.00%	0.000%	×
20	0010751390	pipe assy	1	AU48NFIAIA	0.00%	0.000%	×
21	001A1301465	fixing plate	1	AU48NFIAIA	0.00%	0.000%	×
22	0010450197	high pressure sensor	1	AU48NFIAIA	0.00%	0.000%	×
23	0010750476	3-way stop valve	1	AU48NFIAIA	0.00%	0.000%	×
24	001A2500116	3-way stop valve	1	AU48NFIAIA	0.00%	0.000%	×
25	0010450198	low pressure sensor	1	AU48NFIAIA	0.00%	0.000%	×
26	0010750474	high pressure storage	1	AU48NFIAIA	0.00%	0.000%	×
27	0010750475	oil segregator	1	AU48NFIAIA	0.00%	0.000%	×
28	0010751335	compressor	1	AU48NFIAIA	0.06%	0.072%	*
29	001A1301762	valve support plate	1	AU48NFIAIA	0.00%	0.000%	×
30	0010150080	bottom plate	1	AU48NFIAIA	0.00%	0.000%	×
31	001A1301117	little plate	1	AU48NFIAIA	0.00%	0.000%	×
32	001A1436160	handle	1	AU48NFIAIA	0.00%	0.000%	×

AU422FIAHA / AU422FIAIA / AU422FIBIA Electrical system



AU422FIAHA / AU422FIAIA

No.	Specialized Number	Name	Quantity
1	001A1301467	Electrical box	1
2	001A0600379	Outdoor PCB 1	1
3	001A4000110	Power source terminal block	1
4	001A5731054	Wire nip	3
5	001A4000163	Terminal block	1
6	001A0600378	Outdoor PCB 2	1
7	001A3700015	Rectifying bridge	4
8	001A0600274	Module panel	2
9	001A2221119	Radiator	1
10	001A4100013	Fuse	2
11	001A3600247	Electrolytic capacitor 1	2
12	001A3600248	Electrolytic capacitor 2	2
13	001A3600018	Fan motor capacitor	2
14	001A1301466	Electrical box (thwartwise)	1

AU422FIAIA

3	0010400863	Power source terminal block	1

AU422FIBIA

No.	Specialized Number	Name	Quantity
1	001A1301467	Electrical box	1
2	0010450354	Outdoor PCB 1	1
3	001A4000110	Power source terminal block	1
4	001A5731054	Wire nip	3
5	001A4000163	Terminal block	1
6	001A0600378	Outdoor PCB 2	1
7	001A3700015	Rectifying bridge	4
8	001A0600274	Module panel	2
9	001A2221119	Radiator	1
10	001A4100013	Fuse	2
11	001A3600247	Electrolytic capacitor 1	2
12	001A3600129	Electrolytic capacitor 2	2
13	001A3600018	Fan motor capacitor	2
14	001A1301466	Electrical box (thwartwise)	1

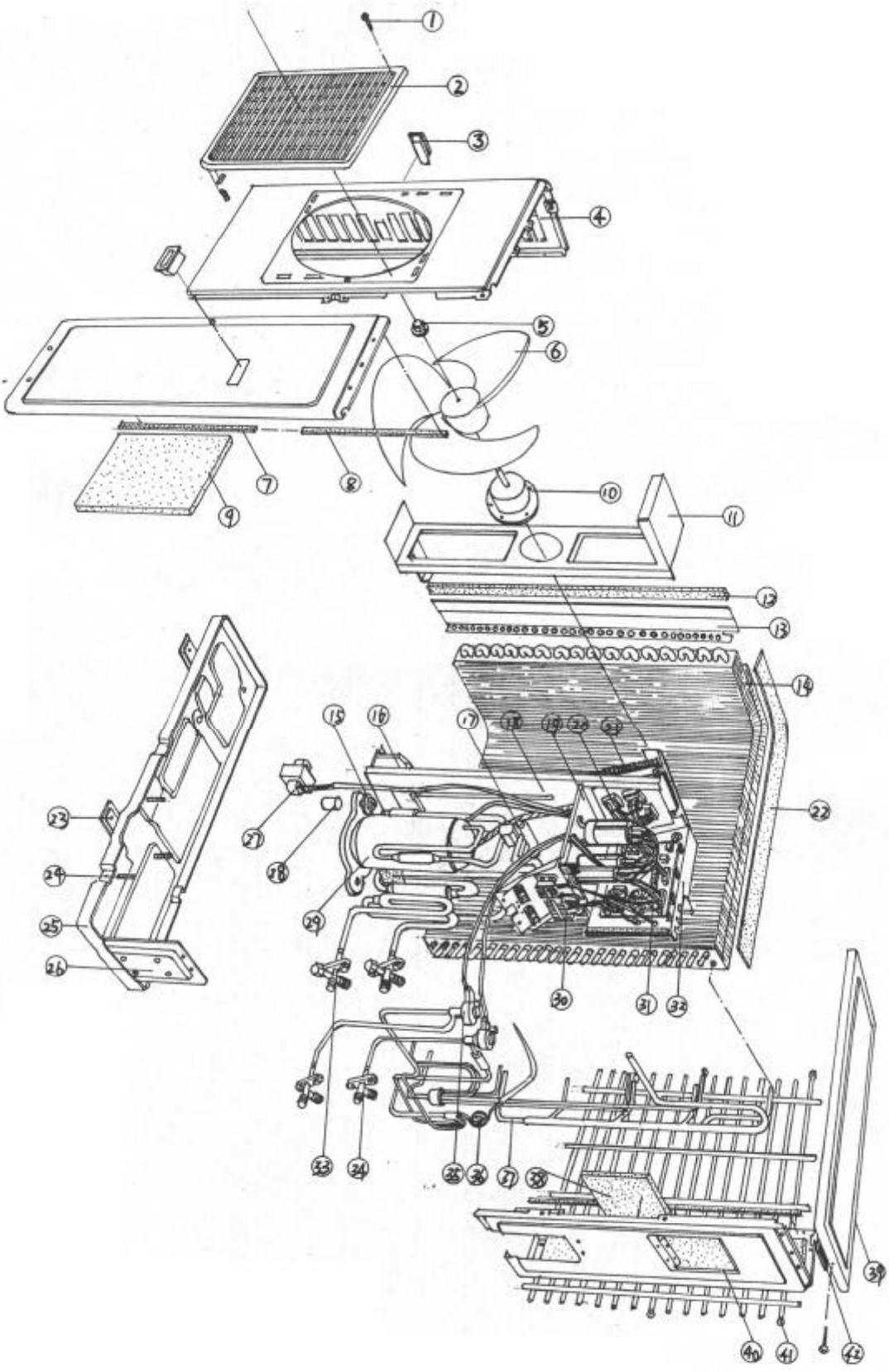
Parts list

No.	Spare parts number	Spare parts description in English	Qty.	Model	Failure rate	the proportion of the spare-part stock	Remark
1	0010150073	Electrical box	1	AU482FIAIA	0.00%	0.000%	×
2	0010450036	PCB 1	1	AU482FIAIA	0.02%	0.024%	*
3	0010450184	power supply Terminal board	1	AU482FIAIA	0.00%	0.000%	×
4	/	/	/	AU482FIAIA			
5	001A5745116	Terminal board	1	AU482FIAIA	0.00%	0.000%	×
6	0010450037	PCB 2	1	AU482FIAIA	0.02%	0.024%	*
7	0010450187	rectifier	2	AU482FIAIA	0.00%	0.000%	×
	0010450188	rectifier	1	AU482FIAIA	0.00%	0.000%	×
8	0010450201	power module	2	AU482FIAIA	0.00%	0.000%	×
9	0010450200	dispel heat patch	1	AU482FIAIA	0.00%	0.000%	×
10	/	/	/	AU482FIAIA			
11	0010450189	electrolyse capacitance 1	1	AU482FIAIA	0.04%	0.048%	*
12	0010450190	electrolyse capacitance 2	2	AU482FIAIA	0.04%	0.048%	*
13	001A3600018	Capacitor for fan motor	2	AU482FIAIA	0.04%	0.048%	*
14	0010150075	Electrical box(level)	1	AU482FIAIA	0.00%	0.000%	×

Parts list

No.	Spare parts number	Spare parts description in English	Qty.	Model	Failure rate	proportion of the spare-part stock	Remark
1	0010150073	Electrical box	1	AU48NFIAIA	0.00%	0.000%	×
2	0010450520	PCB 1	1	AU48NFIAIA	0.02%	0.024%	*
3	0010450184	Power supply Terminal board	1	AU48NFIAIA	0.00%	0.000%	×
5	001A5745116	Terminal board	1	AU48NFIAIA	0.00%	0.000%	×
6	0010450506	PCB 2	1	AU48NFIAIA	0.02%	0.024%	*
7	0010450676	Rectifier	1	AU48NFIAIA	0.00%	0.000%	×
8	0010450201	Power module	2	AU48NFIAIA	0.00%	0.000%	×
9	0010450200	Dispel heat patch	1	AU48NFIAIA	0.00%	0.000%	×
11	0010450642	Electrolyse capacitance	2	AU48NFIAIA	0.04%	0.048%	*
13	001A3600018	Capacitor for fan motor	2	AU48NFIAIA	0.04%	0.048%	*
14	0010150075	Electrical box(level)	1	AU48NFIAIA	0.00%	0.000%	×

Model: AU242FHAHA / AU242FHBHA



Parts list

No.	Spare parts number	Spare parts description in English	Qty.	Model	Failure rate	the proportion of the spare-part stock	Remark
1	001A5002108	Screw	2	AU242FHAHA	0.0000%	0.0000%	X
2	001A0100122	Front guard assy	1	AU242FHAHA	0.0000%	0.0000%	X
3	001A1436160	Handle	2	AU242FHAHA	0.0000%	0.0000%	X
4	001A1101078	Front Panel	1	AU242FHAHA	0.0000%	0.0000%	X
5	001A5102027	Nut	1	AU242FHAHA	0.0000%	0.0000%	X
6	001A5402022	Axial fan	1	AU242FHAHA	0.0200%	0.0240%	*
7	001A0100389	Plate for maintain	1	AU242FHAHA	0.0000%	0.0000%	X
8	001A1742688	PU pad	1	AU242FHAHA	0.0000%	0.0000%	X
9	001A1762756	sound insulation pad	1	AU242FHAHA	0.0000%	0.0000%	X
10	0010450280	Fan motor	1	AU242FHAHA	0.0200%	0.0240%	*
11	001A1301321	Motor mounting plate	1	AU242FHAHA	0.0000%	0.0000%	X
12	001A1742762	PE	1	AU242FHAHA	0.0000%	0.0000%	X
13	001A2201050	fixing pipe plate	1	AU242FHAHA	0.0000%	0.0000%	X
14	0010700055	Condenser assy	1	AU242FHAHA	0.0000%	0.0000%	X
15	001A5102004	Nut	1	AU242FHAHA	0.0000%	0.0000%	X
16	001A1301470	Cap of reactor	1	AU242FHAHA	0.0000%	0.0000%	X
17	0010701907	four-way valve	1	AU242FHAHA	0.0000%	0.0000%	X
18	001A0100978	Partition plate	1	AU242FHAHA	0.0000%	0.0000%	X
19	001A1301982	Electric box	1	AU242FHAHA	0.0100%	0.0120%	
20	001A3700023	Rectifier	1	AU242FHAHA	0.0100%	0.0120%	
21	001A2221145	Radiator	1	AU242FHAHA	0.0000%	0.0000%	X
23	001A1301117	branch	2	AU242FHAHA	0.0000%	0.0000%	X
24	001A5002025	bolt	3	AU242FHAHA	0.0000%	0.0000%	X
25	0010800019	Bottom plate	1	AU242FHAHA	0.0000%	0.0000%	X
26	001A1301506	valve seat	1	AU242FHAHA	0.0000%	0.0000%	X
27	001A3800042	Reactor	1	AU242FHAHA	0.0100%	0.0120%	
28	001A17521447	Rubber pad	3	AU242FHAHA	0.0000%	0.0000%	X
29	001A2000193	Compressor	1	AU242FHAHA	0.0600%	0.0720%	*
30	001A4000177	Terminal block	1	AU242FHAHA	0.0100%	0.0120%	
31	001A3300241	PCB	1	AU242FHAHA	0.0200%	0.0240%	*
32	0010800020	Electric box assy	1	AU242FHAHA	0.0100%	0.0120%	
33	001A2500083	3-way stop valve	1	AU242FHAHA	0.0000%	0.0000%	X
34	001A2500082	2-way stop valve	1	AU242FHAHA	0.0000%	0.0000%	X
35	001A2500085	Electronic expansion valve	1	AU242FHAHA	0.0100%	0.0120%	*
36	001A3400138	press switch	1	AU242FHAHA	0.0000%	0.0000%	X
37	001A0500657	Pipe	1	AU242FHAHA	0.0000%	0.0000%	X
38	001A1762757	Pad	1	AU242FHAHA	0.0000%	0.0000%	X
39	001A0100264	Top cover assy	1	AU242FHAHA	0.0000%	0.0000%	X
40	001A0100390	Right plate	1	AU242FHAHA	0.0000%	0.0000%	X
41	001A1305112	Guard for heat exchanger	1	AU242FHAHA	0.0000%	0.0000%	X
42	001A1742684	Rubber pad	1	AU242FHAHA	0.0000%	0.0000%	X

1,The failer rate and the proportion of the spare-part stock are regarded as the reference of the stock for spare-parts;The first time should be stocked accroded with the proportion of the spare-parts,and it should be adjusted with the actual quantity 3 months later.

2,easy-damaged;The spare-part which is often damaged and the customer must stock in the spare-parts warehouse,and should be marked with"*"

3,possible damaged:The spare-part which is not often damaged like the easy damaged one and the customer may stock in the spare-part warehouse accord with the actual case,should be marked with " ".

4,not need provided :The spare-part which is seldom damaged or the maintenance man could not maitmains.The spare parts may be air freighted by the factory if they were damaged.The customer nees not stock in the spare-part warehouse,should be marked with " x ".

5,Above should be improved accord with the reply of the market half a year per time.

6.The spare parts price on net is FOB Qingdao term.

Parts list

No.	Spare parts number	Spare parts description in English	Qty.	Model	Failure rate	the proportion of the spare-part stock	Remark
1	001A5002108	Screw	2	AU242FHBHA	0.0000%	0.0000%	X
2	001A0100122	Front guard assy	1	AU242FHBHA	0.0000%	0.0000%	X
3	001A1436160	Handle	2	AU242FHBHA	0.0000%	0.0000%	X
4	001A1101078	Front Panel	1	AU242FHBHA	0.0000%	0.0000%	X
5	001A5102027	Nut	1	AU242FHBHA	0.0000%	0.0000%	X
6	001A5402022	Axial fan	1	AU242FHBHA	0.0200%	0.0240%	*
7	001A0100389	Plate for maintain	1	AU242FHBHA	0.0000%	0.0000%	X
8	001A1742688	PU pad	1	AU242FHBHA	0.0000%	0.0000%	X
9	001A1762756	sound insulation pad	1	AU242FHBHA	0.0000%	0.0000%	X
10	0010450280	Fan motor	1	AU242FHBHA	0.0200%	0.0240%	*
11	001A1301321	Motor mounting plate	1	AU242FHBHA	0.0000%	0.0000%	X
12	001A1742762	PE	1	AU242FHBHA	0.0000%	0.0000%	X
13	001A2201050	fixing pipe plate	1	AU242FHBHA	0.0000%	0.0000%	X
14	0010700055	Condenser assy	1	AU242FHBHA	0.0000%	0.0000%	X
15	001A5102004	Nut	1	AU242FHBHA	0.0000%	0.0000%	X
16	001A1301470	Cap of reactor	1	AU242FHBHA	0.0000%	0.0000%	X
17	0010701907	four-way valve	1	AU242FHBHA	0.0000%	0.0000%	X
18	001A0100978	Partition plate	1	AU242FHBHA	0.0000%	0.0000%	X
19	001A1301982	Electrical box	1	AU242FHBHA	0.0100%	0.0120%	
20	001A3700023	rectifier	1	AU242FHBHA	0.0100%	0.0120%	
21	001A2221145	dispel heat patch	1	AU242FHBHA	0.0000%	0.0000%	X
23	001A1301117	branch	2	AU242FHBHA	0.0000%	0.0000%	X
24	001A5002025	bolt	3	AU242FHBHA	0.0000%	0.0000%	X
25	0010800019	Bottom plate	1	AU242FHBHA	0.0000%	0.0000%	X
26	001A1301506	valve seat	1	AU242FHBHA	0.0000%	0.0000%	X
27	001A3800042	Reactor	1	AU242FHBHA	0.0100%	0.0120%	
28	001A17521447	Rubber pad	3	AU242FHBHA	0.0000%	0.0000%	X
29	0010750905	Compressor	1	AU242FHBHA	0.0600%	0.0720%	*
30	001A4000177	Terminal block	1	AU242FHBHA	0.0100%	0.0120%	
31	0010450351	PCB	1	AU242FHBHA	0.0200%	0.0240%	*
32	0010800020	Electric box assy	1	AU242FHBHA	0.0100%	0.0120%	
33	001A2500154	3-way stop valve	1	AU242FHBHA	0.0000%	0.0000%	X
34	001A2500153	2-way stop valve	1	AU242FHBHA	0.0000%	0.0000%	X
35	001A2500085	Electronic expansion valve	1	AU242FHBHA	0.0100%	0.0120%	*
36	001A3400138	press switch	1	AU242FHBHA	0.0000%	0.0000%	X
37	001A0500657	Pipe	1	AU242FHBHA	0.0000%	0.0000%	X
38	001A1762757	Pad	1	AU242FHBHA	0.0000%	0.0000%	X
39	001A0100264	Top cover assy	1	AU242FHBHA	0.0000%	0.0000%	X
40	001A0100390	Right plate	1	AU242FHBHA	0.0000%	0.0000%	X
41	001A1305112	Guard for heat exchanger	1	AU242FHBHA	0.0000%	0.0000%	X
42	001A1742684	Rubber pad	1	AU242FHBHA	0.0000%	0.0000%	X

1,The failer rate and the proportion of the spare-part stock are regarded as the reference of the stock for spare-parts;The first time should be stocked accroded with the proportion of the spare-parts,and it should be adjusted with the actual quantity 3 months later.

2,easy-damaged;The spare-part which is often damaged and the customer must stock in the spare-parts warehouse,and should be marked with"*"

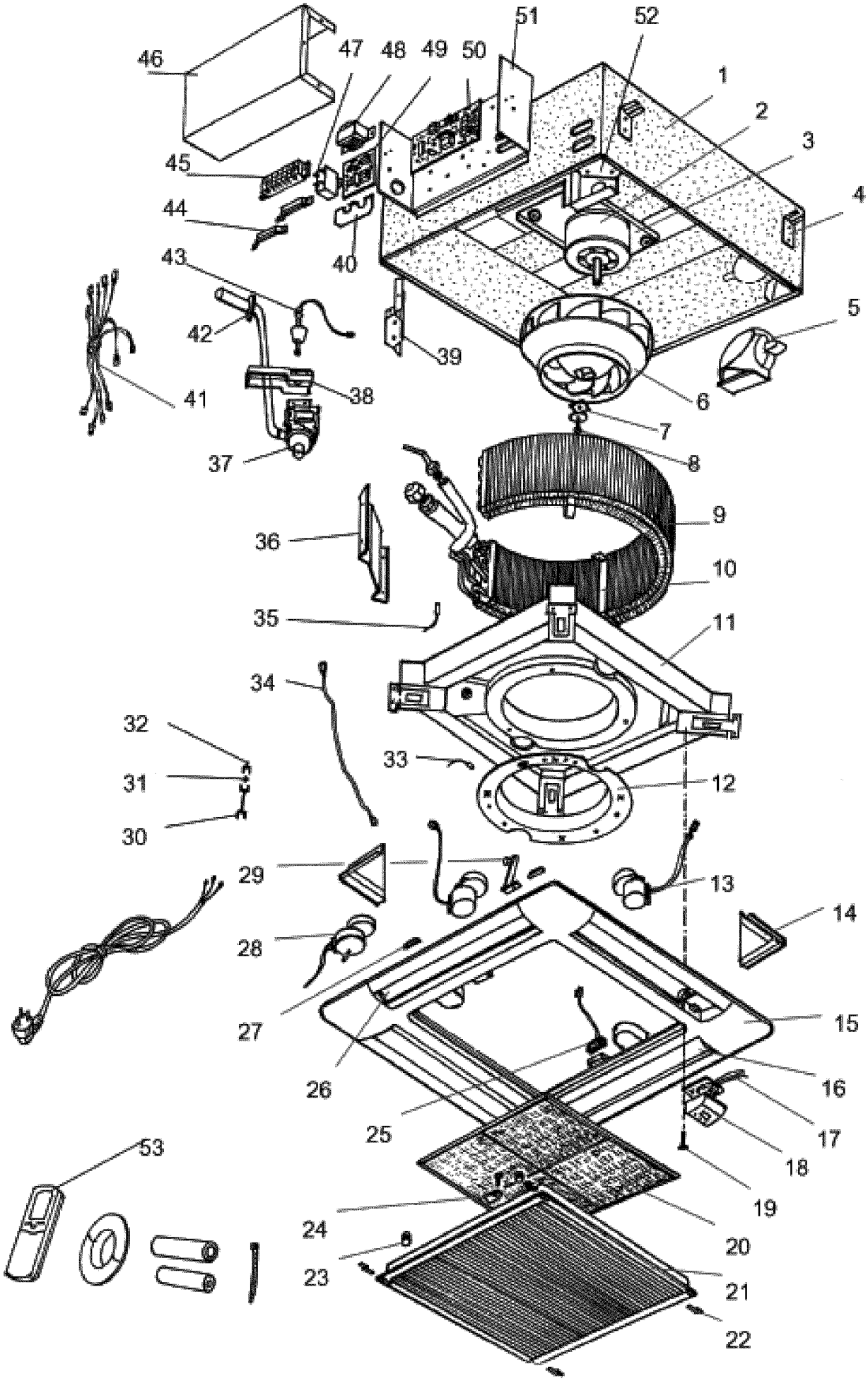
3,possible damaged:The spare-part which is not often damaged like the easy damaged one and the customer may stock in the spare-part warehouse accord with the actual case,should be marked with " ".

4,not need provided :The spare-part which is seldom damaged or the maintenance man could not maitmains.The spare parts may be air freighted by the factory if they were damaged.The customer nees not stock in the spare-part warehouse,should be marked with " x ".

5,Above should be improved accord with the reply of the market half a year per time.

6.The spare parts price on net is FOB Qingdao term.

MODEL : AB092FCBHA / AB142FCBHA /AB182FCBHA



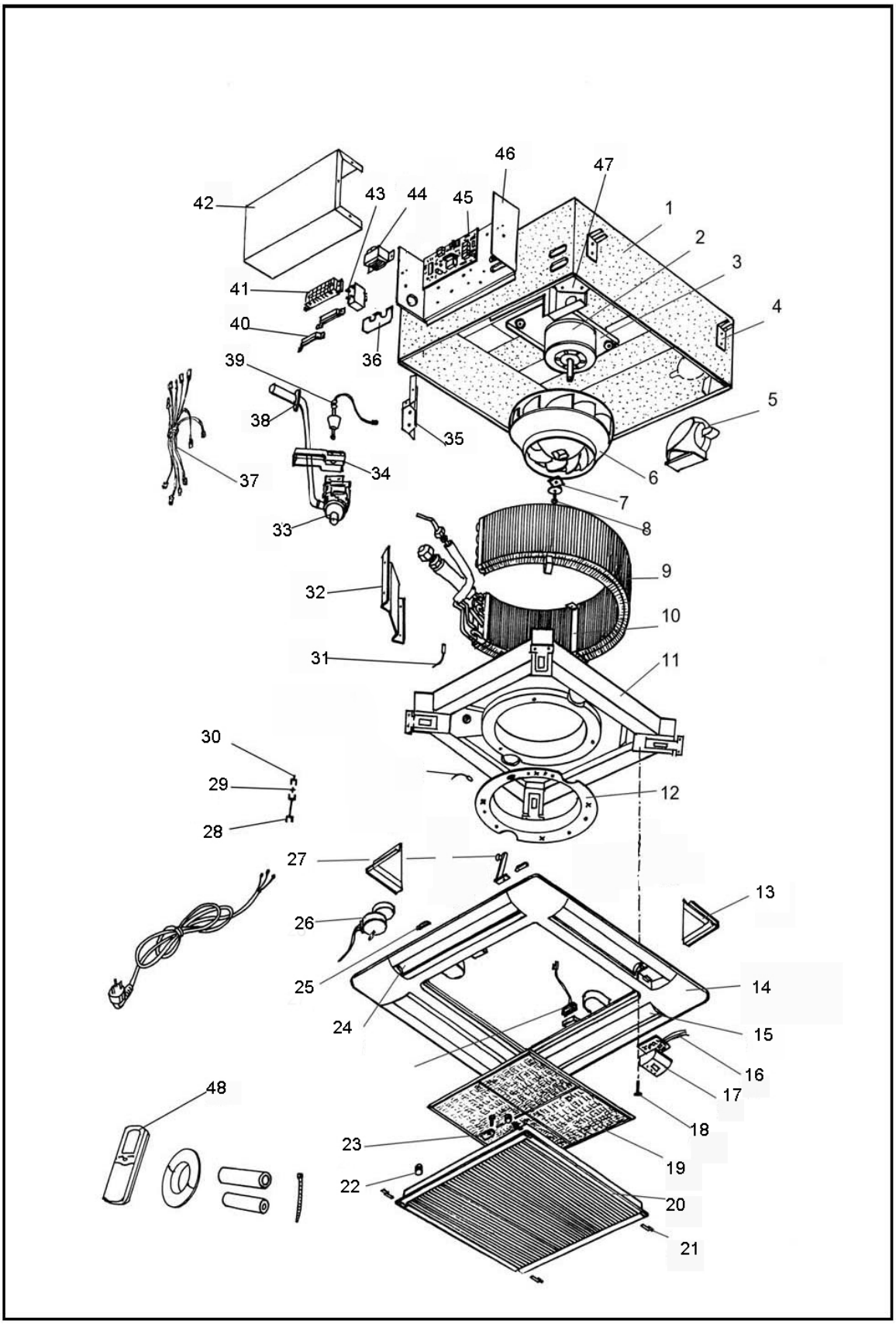
AB092FCBHA / AB142FCBHA

NO.	Name of part	Specialized Number	QTY	NO.	Name of part	Specialized Number	QTY
1	Guard assembly	0010800868	1	28	Swing motor assembly	0010850097	1
2	Indoor fan motor	0010400705	1	29	Holding pole	0010250056	2
3	Motor fix plate	0010100531	1	30	Connecting rod	0010250062	3
4	Swing	001A13011049	4	31	Coupler	0010250063	6
5	Ventilate duct	0010800873	1	32	Connection	0010250064	8
6	Centrifugal fan	0010250024	1	33	Ambient temp. Sensor	001A3900159	1
7	Fan in-built part	0010250101	1	34	Elevating wiring assembly	without	
8	Fix bolt	001A5002204A	1	35	Pipe temp. sensor	001A3900006	1
9	Evaporator assembly	0010750741	1	36	Partition plate	0010100536	1
10	Evaporator fix nip	0010100541	2	37	Water pump motor	001A3000197	1
11	Drain pan	0010201132	1	38	Water pump motor bracket	0010150041	1
12	Wind ring	0010201134	1	39	Fix plate	0010100532	1
13	Elevating motor assembly	without		40	Lock plate	0010100528	1
14	Motor box cover	0010250066	4	41	Indoor wiring assembly	0010450310	1
15	Panel	0010250049	1	42	Drainage pipe	001A14341141	1
16	Airflow oriented board 1	0010250050	3	43	Level switch	001A3400160	1
17	PCB receiver	0010450083	1	44	Power line clip	001A14311292	2
18	Indicator light cover	0010250054	1	45	Terminal block	001A4000177	1
19	Bolt 4*16 BTHC	001A5002088	4	46	Eletrical box cover	0010100538	1
20	Air filter	0010250053	1	47	Fan motor capacitor 4 uf	001A3600018	1
21	Inlet grill	0010250052	1	48	Resumable transformer	001A3800141	1
22	Fix bolt	0010250055	4	49	Elevating control plate	without	
23	Stationary rings	0010250058	4	50	Indoor PCB	0010450311	1
24	Axis sleeve	0010250065	8	51	Eletrical box	0010100537	1
25	Switch fix clip	0010250060	1	52	Wiring partition	0010800870	1
26	Airflow oriented board 2	0010250051	1				
27	Pull on line hole	0010250057	4				

AB182FCBHA

NO.	Name of part	Specialized Number	QTY	NO.	Name of part	Specialized Number	QTY
1	Guard assembly	0010800868	1	28	Swing motor assembly	0010850097	1
2	Indoor fan motor	0010400705	1	29	Holding pole	0010250056	2
3	Motor fix plate	0010100531	1	30	Connecting rod	0010250062	3
4	Swing	001A13011049	4	31	Coupler	0010250063	6
5	Ventilate duct	0010201129	1	32	Connection	0010250064	8
6	Centrifugal fan	0010250024	1	33	Ambient temp. Sensor	0010400885	1
7	Fan in-built part	0010250101	1	34	Elevating wiring assembly	without	
8	Fix bolt	001A5002204A	1	35	Pipe temp. sensor	001A3900006	1
9	Evaporator assembly	0010751162	1	36	Partition plate	0010100536	1
10	Evaporator fix nip	0010100541	2	37	Water pump motor	001A3000197	1
11	Drain pan	0010201132	1	38	Water pump motor bracket	0010150041	1
12	Wind ring	0010201134	1	39	Fix plate	0010100532	1
13	Elevating motor assembly	without		40	Lock plate	0010100528	1
14	Motor box cover	0010250066	4	41	Indoor wiring assembly	0010450310	1
15	Panel	0010250049	1	42	Drainage pipe	001A14341141	1
16	Airflow oriented board 1	0010250050	3	43	Level switch	001A3400160	1
17	PCB receiver	0010450083	1	44	Power line clip	001A14311292	2
18	Indicator light cover	0010250054	1	45	Terminal block	001A4000106	1
19	Bolt 4*16 BTHC	001A5002088	4	46	Eletrical box cover	0010100538	1
20	Air filter	0010250053	1	47	Fan motor capacitor 4 uf	001A3600018	1
21	Inlet grill	0010250052	1	48	Resumable transformer	001A3800141	1
22	Fix bolt	0010250055	4	49	Elevating control plate	without	
23	Stationary rings	0010250058	4	50	Indoor PCB	0010400879	1
24	Axis sleeve	0010250065	8	51	Eletrical box	0010100537	1
25	Switch fix clip	0010250060	1	52	Wiring partition	0010800870	1
26	Airflow oriented board 2	0010250051	1				
27	Pull on line hole	0010250057	4				

MODEL : AB092FCAHA AB142FCAHA



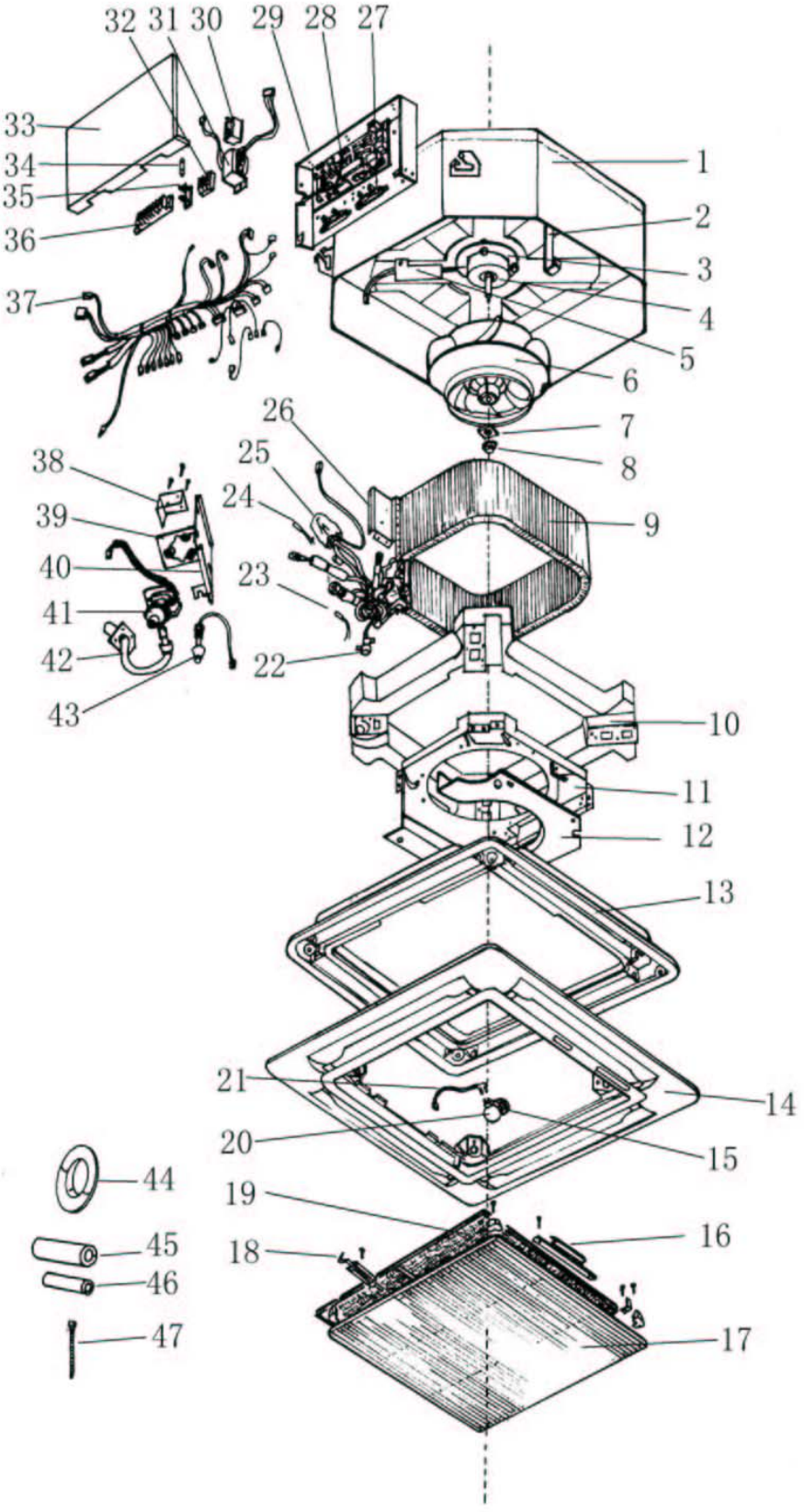
Parts list

No.	Spare parts number	Spare parts description in english	Qty.	Model	Failure rate	proportion of the spare-part stock	Remark
1	0010800868	Guard assembly	1	AB092FCAHA	0.00%	0.000%	×
2	0010400705	Indoor fan motor	1	AB092FCAHA	0.02%	0.024%	*
3	0010100531	Motor fix plate	1	AB092FCAHA	0.00%	0.000%	×
4	001A13011049	Swing	4	AB092FCAHA	0.00%	0.000%	×
5	0010201129	Ventilate duct	1	AB092FCAHA	0.00%	0.000%	×
6	0010250024	Centrifugal fan	1	AB092FCAHA	0.02%	0.024%	*
7	0010250101	Fan in-built part	1	AB092FCAHA	0.00%	0.000%	×
8	001A5002204A	screw	1	AB092FCAHA	0.00%	0.000%	×
9	0010750924	Evaporator assembly	1	AB092FCAHA	0.01%	0.012%	
10	0010100541	Evaporator fix nip	2	AB092FCAHA	0.00%	0.000%	×
11	0010201132	Drain pan	1	AB092FCAHA	0.00%	0.000%	×
12	0010201134	Wind ring	1	AB092FCAHA	0.00%	0.000%	×
13	0010250066	Motor box cover	4	AB092FCAHA	0.00%	0.000%	×
14	0010250049	Panel	1	AB092FCAHA	0.00%	0.000%	×
15	0010250050	Airflow oriented board 1	3	AB092FCAHA	0.00%	0.000%	×
16	0010450083	receive panel	1	AB092FCAHA	0.02%	0.024%	*
17	0010250054	Indicator light cover	1	AB092FCAHA	0.00%	0.000%	×
18	001A5002088	Bolt 4*16 BTHC	4	AB092FCAHA	0.00%	0.000%	×
19	0010250053	Air filter	1	AB092FCAHA	0.00%	0.000%	×
20	0010250052	Inlet grill	1	AB092FCAHA	0.00%	0.000%	×
21	0010250055	Fix bolt	4	AB092FCAHA	0.00%	0.000%	×
22	0010250058	Stationary rings	4	AB092FCAHA	0.00%	0.000%	×
23	0010250065	Axis sleeve	8	AB092FCAHA	0.00%	0.000%	×
24	0010250060	Switch fix clip	1	AB092FCAHA	0.00%	0.000%	×
25	0010250051	Airflow oriented board 2	1	AB092FCAHA	0.00%	0.000%	×
26	0010250057	Pull on line hole	4	AB092FCAHA	0.00%	0.000%	×
27	0010850097	Swing motor assembly	1	AB092FCAHA	0.02%	0.024%	*
28	0010250056	Holding pole	2	AB092FCAHA	0.00%	0.000%	×
29	0010250062	Connecting rod	3	AB092FCAHA	0.00%	0.000%	×
30	0010250063	Coupler	6	AB092FCAHA	0.00%	0.000%	×
31	0010250064	Connection	8	AB092FCAHA	0.00%	0.000%	×
32	0010100536	Partition plate	1	AB092FCAHA	0.00%	0.000%	×
33	001A3000197	Water pump motor	1	AB092FCAHA	0.02%	0.024%	*
34	0010150041	Water pump motor bracke	1	AB092FCAHA	0.00%	0.000%	×
35	0010100532	Fix plate	1	AB092FCAHA	0.00%	0.000%	×
36	0010100528	Lock plate	1	AB092FCAHA	0.00%	0.000%	×
37	0010450282	Indoor wiring assembly	1	AB092FCAHA	0.00%	0.000%	×
38	001A14341141	Drainage pipe	1	AB092FCAHA	0.00%	0.000%	×
39	001A3400160	Level switch	1	AB092FCAHA	0.00%	0.000%	×
40	001A5745116	Power line clip	2	AB092FCAHA	0.00%	0.000%	×
41	001A4000177	Terminal block	1	AB092FCAHA	0.00%	0.000%	×
42	0010100538	Eletrical box cover	1	AB092FCAHA	0.00%	0.000%	×
43	001A3600018	Fan motor capacitor 4 uf	1	AB092FCAHA	0.04%	0.048%	*
44	001A3800141	Resumable transformer	1	AB092FCAHA	0.00%	0.000%	×
45	0010400879	Indoor PCB	1	AB092FCAHA	0.02%	0.024%	*
46	0010100537	Eletrical box	1	AB092FCAHA	0.00%	0.000%	×
47	0010800870	Wiring partition	1	AB092FCAHA	0.00%	0.000%	×
48	0010450069	Elevating remote controlle	1	AB092FCAHA	0.01%	0.012%	

Parts list

No.	Spare parts number	Spare parts description in english	Qty.	Model	Failure rate	the proportion of the spare-part	Remark
1	0010800868	Guard assembly	1	AB142FCAHA	0.00%	0.000%	×
2	0010400705	Indoor fan motor	1	AB142FCAHA	0.02%	0.024%	*
3	0010100531	Motor fix plate	1	AB142FCAHA	0.00%	0.000%	×
4	001A13011049	Swing	4	AB142FCAHA	0.00%	0.000%	×
5	0010201129	Ventilate duct	1	AB142FCAHA	0.00%	0.000%	×
6	0010250024	Centrifugal fan	1	AB142FCAHA	0.02%	0.024%	*
7	0010250101	Fan in-built part	1	AB142FCAHA	0.00%	0.000%	×
8	001A5002204A	screw	1	AB142FCAHA	0.00%	0.000%	×
9	0010750924	Evaporator assembly	1	AB142FCAHA	0.01%	0.012%	
10	0010100541	Evaporator fix nip	2	AB142FCAHA	0.00%	0.000%	×
11	0010201132	Drain pan	1	AB142FCAHA	0.00%	0.000%	×
12	0010201134	Wind ring	1	AB142FCAHA	0.00%	0.000%	×
13	0010250066	Motor box cover	4	AB142FCAHA	0.00%	0.000%	×
14	0010250049	Panel	1	AB142FCAHA	0.00%	0.000%	×
15	0010250050	Airflow oriented board 1	3	AB142FCAHA	0.00%	0.000%	×
16	0010450083	receive panel	1	AB142FCAHA	0.02%	0.024%	*
17	0010250054	Indicator light cover	1	AB142FCAHA	0.00%	0.000%	×
18	001A5002088	Bolt 4*16 BTHC	4	AB142FCAHA	0.00%	0.000%	×
19	0010250053	Air filter	1	AB142FCAHA	0.00%	0.000%	×
20	0010250052	Inlet grill	1	AB142FCAHA	0.00%	0.000%	×
21	0010250055	Fix bolt	4	AB142FCAHA	0.00%	0.000%	×
22	0010250058	Stationary rings	4	AB142FCAHA	0.00%	0.000%	×
23	0010250065	Axis sleeve	8	AB142FCAHA	0.00%	0.000%	×
24	0010250060	Switch fix clip	1	AB142FCAHA	0.00%	0.000%	×
25	0010250051	Airflow oriented board 2	1	AB142FCAHA	0.00%	0.000%	×
26	0010250057	Pull on line hole	4	AB142FCAHA	0.00%	0.000%	×
27	0010850097	Swing motor assembly	1	AB142FCAHA	0.02%	0.024%	*
28	0010250056	Holding pole	2	AB142FCAHA	0.00%	0.000%	×
29	0010250062	Connecting rod	3	AB142FCAHA	0.00%	0.000%	×
30	0010250063	Coupler	6	AB142FCAHA	0.00%	0.000%	×
31	0010250064	Connection	8	AB142FCAHA	0.00%	0.000%	×
32	0010100536	Partition plate	1	AB142FCAHA	0.00%	0.000%	×
33	001A3000197	Water pump motor	1	AB142FCAHA	0.02%	0.024%	*
34	0010150041	Water pump motor bracke	1	AB142FCAHA	0.00%	0.000%	×
35	0010100532	Fix plate	1	AB142FCAHA	0.00%	0.000%	×
36	0010100528	Lock plate	1	AB142FCAHA	0.00%	0.000%	×
37	0010450310	Indoor wiring assembly	1	AB142FCAHA	0.00%	0.000%	×
38	001A14341141	Drainage pipe	1	AB142FCAHA	0.00%	0.000%	×
39	001A3400160	Level switch	1	AB142FCAHA	0.00%	0.000%	×
40	001A5745116	Power line clip	2	AB142FCAHA	0.00%	0.000%	×
41	001A4000177	Terminal block	1	AB142FCAHA	0.00%	0.000%	×
42	0010100538	Eletrical box cover	1	AB142FCAHA	0.00%	0.000%	×
43	001A3600018	Fan motor capacitor 4 uf	1	AB142FCAHA	0.04%	0.048%	*
44	001A3800141	Resumable transformer	1	AB142FCAHA	0.00%	0.000%	×
45	0010400879	Indoor PCB	1	AB142FCAHA	0.02%	0.024%	*
46	0010100537	Eletrical box	1	AB142FCAHA	0.00%	0.000%	×
47	0010800870	Wiring partition	1	AB142FCAHA	0.00%	0.000%	×
48	0010450069	Remote controller	1	AB142FCAHA	0.01%	0.012%	

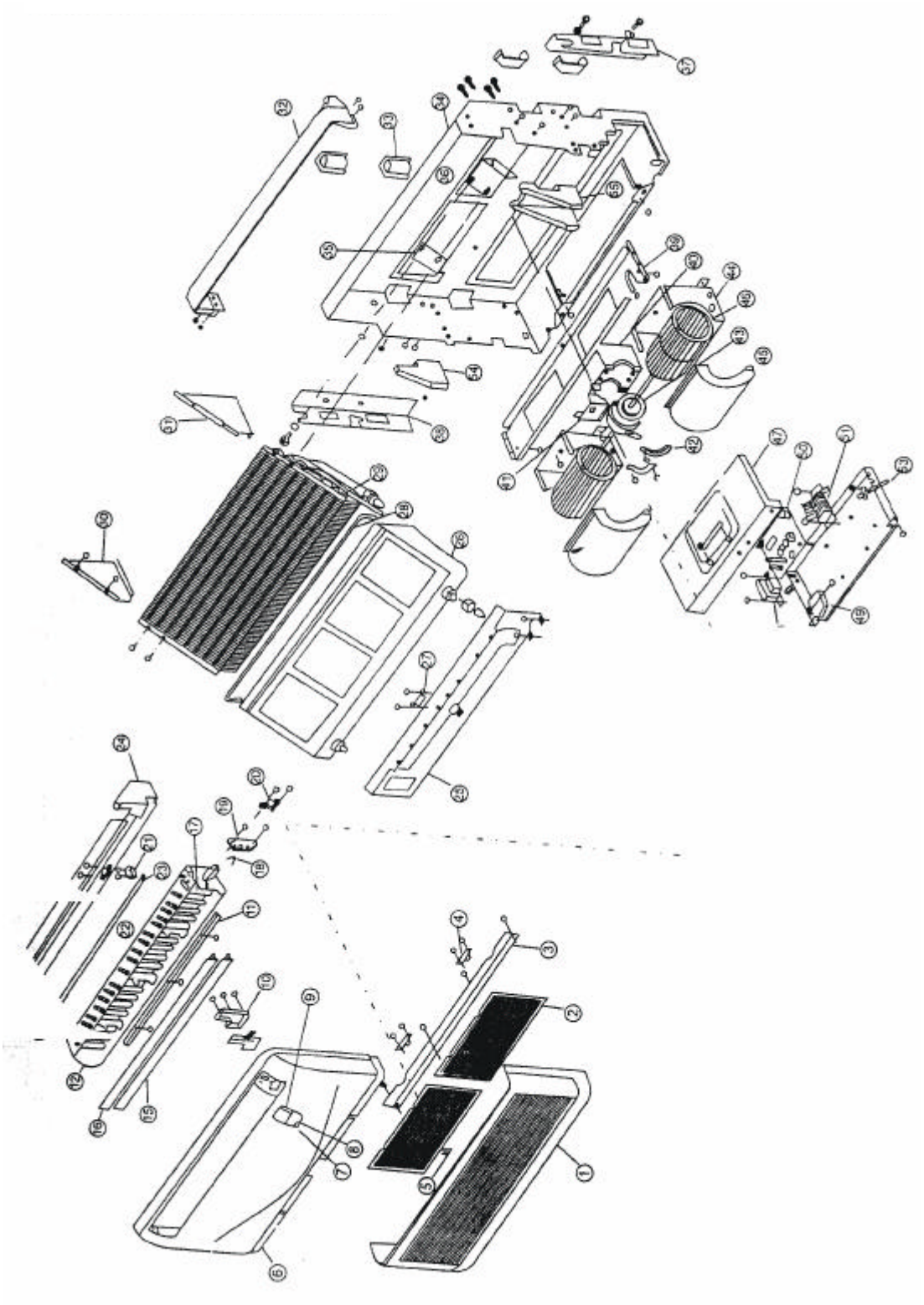
MODEL : AB182FCAHA



Parts list

No.	Spare parts number	Spare parts description in english	Qty.	Model	Failure rate	the proportion of the spare-	Remark
1	0010800033	base pan assy	1	AB182FCAHA	0.00%	0.000%	X
2	001A1301358	evaporator holder	2	AB182FCAHA	0.00%	0.000%	X
3	001A1301352	motor press panel	1	AB182FCAHA	0.00%	0.000%	X
4	001A3000093	motor (indoor)	1	AB182FCAHA	0.02%	0.024%	*
5	001A1301353	base pan press wire panel	1	AB182FCAHA	0.00%	0.000%	X
6	001A2300040	centrifugal fan	1	AB182FCAHA	0.02%	0.024%	*
7	001A5401035	flat pad	3	AB182FCAHA	0.00%	0.000%	X
8	001A5102050	flange nut	1	AB182FCAHA	0.00%	0.000%	X
9	0010701153	evaporator assy	1	AB182FCAHA	0.00%	0.000%	X
10	001A0100306	drain pan assy	1	AB182FCAHA	0.01%	0.012%	
11	001A0100304	wind ring assy	1	AB182FCAHA	0.00%	0.000%	X
12	001A1101094	cover panel	1	AB182FCAHA	0.00%	0.000%	X
13	001A0100303	panel pad assy	1	AB182FCAHA	0.02%	0.024%	*
14	001A1231163	panel	1	AB182FCAHA	0.00%	0.000%	X
15	001A1436557	small cam	1	AB182FCAHA	0.00%	0.000%	X
16	001A1301344	inlet grill bolt	1	AB182FCAHA	0.00%	0.000%	X
17	001A1231165	inlet grill	1	AB182FCAHA	0.00%	0.000%	X
18	001A0100302	inlet grill bolt assy	2	AB182FCAHA	0.00%	0.000%	X
19	001A2431057	filter net	1	AB182FCAHA	0.00%	0.000%	X
20	001A3000098	sychro-motor	1	AB182FCAHA	0.02%	0.024%	*
21	0010400547	sychro-motor wire	1	AB182FCAHA	0.00%	0.000%	X
22	001A3800145	pressure sensoı	1	AB182FCAHA	0.02%	0.024%	*
23	001A3800153	gas temp. sensor	1	AB182FCAHA	0.02%	0.024%	*
24	001A3800152	liquid pipe temp. sensor	1	AB182FCAHA	0.02%	0.024%	*
25	001A2500146	PMV	1	AB182FCAHA	0.01%	0.012%	
26	001A1301359	evaporator bracket	1	AB182FCAHA	0.00%	0.000%	X
27	001A5745116	press wire clip	2	AB182FCAHA	0.00%	0.000%	X
28	0010400879	control base panel	1	AB182FCAHA	0.02%	0.024%	*
29	0010100417	electrical box	1	AB182FCAHA	0.00%	0.000%	X
30	001A3600009B	fan motor capacitor	1	AB182FCAHA	0.02%	0.024%	*
31	001A13011199	electrical box cover	1	AB182FCAHA	0.00%	0.000%	X
32	001A4000177	terminal block 6	1	AB182FCAHA	0.01%	0.012%	
33	0010400880	wireness bind assy	1	AB182FCAHA	0.01%	0.012%	
34	001A1439566A	waterproof clarify panel	1	AB182FCAHA	0.00%	0.000%	X
35	001A1301375	water motor support panel	1	AB182FCAHA	0.00%	0.000%	X
36	001A1302753	water support panel assy	1	AB182FCAHA	0.00%	0.000%	X
37	0010450169	water pump motor	1	AB182FCAHA	0.01%	0.012%	
38	001A0100311	drain pipe assy	1	AB182FCAHA	0.00%	0.000%	X
39	001A3400076	float switch	1	AB182FCAHA	0.01%	0.012%	
40	001A1752228A	guard ring	2	AB182FCAHA	0.01%	0.012%	
41	001A1434575A	partition pipe 1	1	AB182FCAHA	0.00%	0.000%	X
42	001A1434576A	partition pipe 2	1	AB182FCAHA	0.00%	0.000%	X
43	001A6645007	wire clip	12	AB182FCAHA	0.00%	0.000%	X

Model: AC142FCBHA / AC182FCBHA / AC182FCAHA



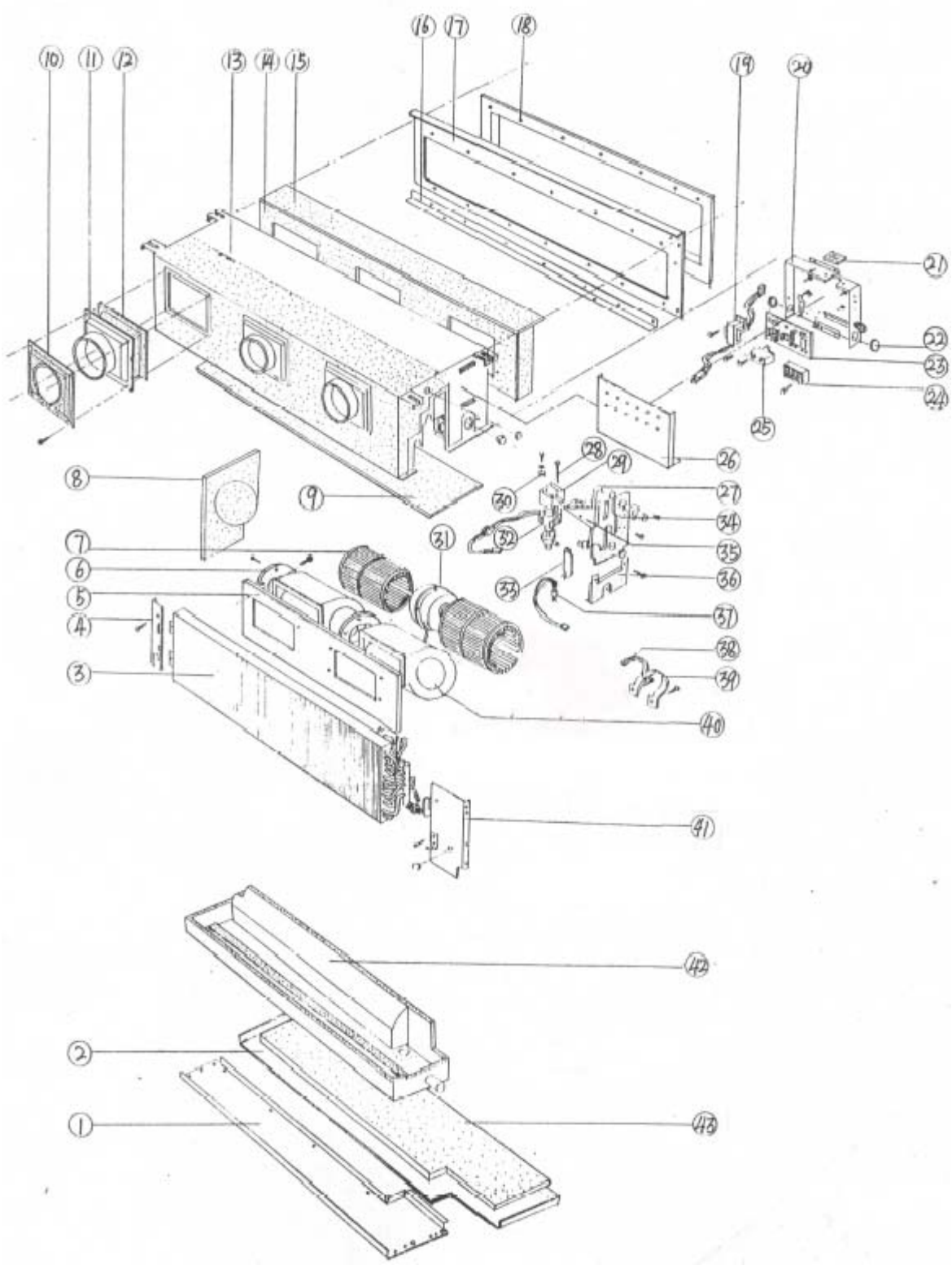
AC142FCBHA / AC182FCBHA

No.	Specialized Number	Name	Quantity
1	001A0100330	Inlet grill	1
2	001A2400087	Air filter	2
3	001A1301395	Reinforced rod	1
4	001A1301399	Pinch plate	2
5	001A17001180	Fixed board	1
6	001A1231181	Front panel	1
7	001A1431586	Display panel	1
8	001A1444589	Receive window	1
9	001A1431587	Indicating lamp-shaded	13
10	001A1431588	Cover for indicator panel	1
11	001A1742772A	Rod board	1
12	001A0100331	Frame of air outlet grill	1
13	001A1431593	Long pole 1	1
14	001A1431594	Long pole 2	1
15	001A1431593	Blade 1	1
16	001A1431594	Blade 2	1
17	001A1431599	Blade(small)	13
18	001A1431598	Crank link	1
19	001A1431595	Frame for step motor	1
20	001A3000107	Stepping motor	1
21	001A1431605	Irregular board	1
22	001A1431602	Long pole assembly 1	1
23	001A1431603	Long pole assembly 1	1
24	001A1231192	Sub-drain pan	1
25	001A1301388	Partition plate(up)	1
26	001A1233191	Drain pan	1
27	001A1436607	Lock	1
28	001A1301396	Fixed press strip	1
29	0010701137	Evaporator assy	1
30	001A1231183	Support plate(Left)	1
31	001A1231184	Support plate(Right)	1
32	001A1231182	Top plate	1
33	001A1436606	Handle	4
34	001A1101098	Back rear frame assembly	1
35	001A1301400	Evaporator fixed-board(Left)	1
36	001A13011226	Evaporator fixed-board(Right)	1
37	001A1101104	Mounting plate(Right)	1
38	001A1101103	Mounting plate(Left)	1
39	001A100610	Partition plate(down)	2
40	001A1301381	Frame for motor	1
41	001A0100608	Motor braket assembly	1
42	001A1301382	Motor pressure pad	2
43	001A3000109	Motor	1
44	001A1431608	Worm shell(down)	2
45	001A1431609	Worm shell(up)	2
46	001A2300042	Centrifugal fan	2
47	001A0100609	Electrical box cover assy	1
48	001A3800141	Transformer	1
49	001A3600009B	Motor capacitor	1
50	0010450416	PCB	1
51	001A4000177	Terminal block (6 bites)	1
52	001A1301378	Electrical box	1
53	001A14311292	Power supply nip	1
54	001A1734865	Evaporator pad(Left)	1

Parts list

No.	Spare parts number	Spare parts description in English	Qty.	Model	Price list($)	Failure rate	the proportion of the spare-part stock	Remark
1	001A0100330	air inlet grill	1	AC182FCAHA	2.96	0.0000%	0.0000%	×
2	001A2400087	air filter	2	AC182FCAHA	0.82	0.0000%	0.0000%	×
3	001A1301395	teinforced rod	1	AC182FCAHA	0.44	0.0000%	0.0000%	×
4	001A1431559	pinch plate	1	AC182FCAHA	0.00	0.0000%	0.0000%	×
5	001A17001180	fixed board	1	AC182FCAHA	0.23	0.0000%	0.0000%	×
6	001A1231181	front panel	1	AC182FCAHA	0.01	0.0000%	0.0000%	×
7	001A1431586	display panel	1	AC182FCAHA	0.24	0.0000%	0.0000%	×
8	001A1444589	red wire window	1	AC182FCAHA	0.24	0.0000%	0.0000%	×
9	001A1431587	indicating lamp-shaded	1	AC182FCAHA	0.02	0.0000%	0.0000%	×
10	001A1431588	cover for indicator panel	1	AC182FCAHA	0.17	0.0000%	0.0000%	×
11	001A1742772A	rod board	3	AC182FCAHA	0.09	0.0000%	0.0000%	×
12	001A0100331	frame for air outlet grill	3	AC182FCAHA	13.51	0.0000%	0.0000%	×
13	001A1431593	long pole 1	1	AC182FCAHA	0.89	0.0000%	0.0000%	×
14	001A1431594	long pole 2	1	AC182FCAHA	0.89	0.0000%	0.0000%	×
15	001A1431593	blade2	1	AC182FCAHA	0.89	0.0000%	0.0000%	×
16	001A1431594	blade1	1	AC182FCAHA	0.89	0.0000%	0.0000%	×
17	001A1431599	blade(small)	1	AC182FCAHA	0.07	0.0000%	0.0000%	×
18	001A1431598	crank link	1	AC182FCAHA	0.02	0.0200%	0.0240%	*
19	001A1431595	frame for step motor	1	AC182FCAHA	0.08	0.0000%	0.0000%	×
20	001A3000107	stepping motor	1	AC182FCAHA	4.40	0.0200%	0.0240%	*
21	001A1431605	irregular board	1	AC182FCAHA	0.05	0.0000%	0.0000%	×
22	001A1443602	long pole assembly 1	1	AC182FCAHA	0.02	0.0000%	0.0000%	×
23	001A1443603	long pole assembly 2	1	AC182FCAHA	0.02	0.0000%	0.0000%	×
24	001A1231192	sub-drain pan	1	AC182FCAHA	0.24	0.0000%	0.0000%	×
25	001A1301388	partition plate (up)	1	AC182FCAHA	2.88	0.0000%	0.0000%	×
26	001A1233191	drain pan	1	AC182FCAHA	3.63	0.0000%	0.0000%	×
27	001A1436607	door lock	2	AC182FCAHA	0.04	0.0000%	0.0000%	×
28	001A1301396	fixed press strip	1	AC182FCAHA	0.77	0.0000%	0.0000%	×
29	0010701137	evaporator assembly	1	AC182FCAHA	32.45	0.0100%	0.0120%	
30	001A1231183	support plate	2	AC182FCAHA	0.01	0.0000%	0.0000%	×
31	001A1231184	support plate	2	AC182FCAHA	1.25	0.0000%	0.0000%	×
32	001A1231182	top plate	1	AC182FCAHA	0.01	0.0000%	0.0000%	×
33	001A1436606	handle	1	AC182FCAHA	0.07	0.0000%	0.0000%	×
34	001A1101098	rear frame assembly	1	AC182FCAHA	22.01	0.0000%	0.0000%	×
35	001A1301400	evaporator fixed-board	1	AC182FCAHA	0.14	0.0000%	0.0000%	×
36	001A13011226	evaporator fixed-board	1	AC182FCAHA	0.06	0.0000%	0.0000%	×
37	001A1101103	mounting plate	1	AC182FCAHA	0.01	0.0000%	0.0000%	×
38	001A1101104	mounting plate	1	AC182FCAHA	0.01	0.0200%	0.0240%	*
39	001A0100610	mounting plate	1	AC182FCAHA	2.79	0.0000%	0.0000%	×
40	0010800161	frame for motor	1	AC182FCAHA	35.21	0.0000%	0.0000%	×
41	001A1301381	motor assembly	1	AC182FCAHA	1.96	0.0200%	0.0240%	*
42	001A1301382	motor pressure pad	2	AC182FCAHA	0.70	0.0000%	0.0000%	×
43	001A3000109	motor	1	AC182FCAHA	37.48	0.0200%	0.0240%	*
44	001A1431608	worm shell	2	AC182FCAHA	1.29	0.0000%	0.0000%	×
45	001A1431609	worm shell	2	AC182FCAHA	1.37	0.0000%	0.0000%	×
46	001A2300042	centrifugal fan	2	AC182FCAHA	0.23	0.0500%	0.0600%	*
47	001A0100609	electrical box cover	1	AC182FCAHA	0.22	0.0400%	0.0480%	*
48	001A3800141	transformer	1	AC182FCAHA	3.82	0.0200%	0.0240%	*
49	001A3600009B	motor capacitor	1	AC182FCAHA	2.31	0.0100%	0.0120%	
50	001A0400877	control board	1	AC182FCAHA	3.41	0.0100%	0.0120%	
51	001A4000177	terminal block	1	AC182FCAHA	0.67	0.0000%	0.0000%	×
52	001A1301378	electrical box	1	AC182FCAHA	0.90	0.0100%	0.0120%	
53	001A14311292	power supply	1	AC182FCAHA	2.44	0.0000%	0.0000%	×
54	001A1734865	evaporator pad	1	AC182FCAHA	0.02	0.0000%	0.0000%	×
55	001A1734866	evaporator pad	1	AC182FCAHA	0.03	0.0000%	0.0000%	×

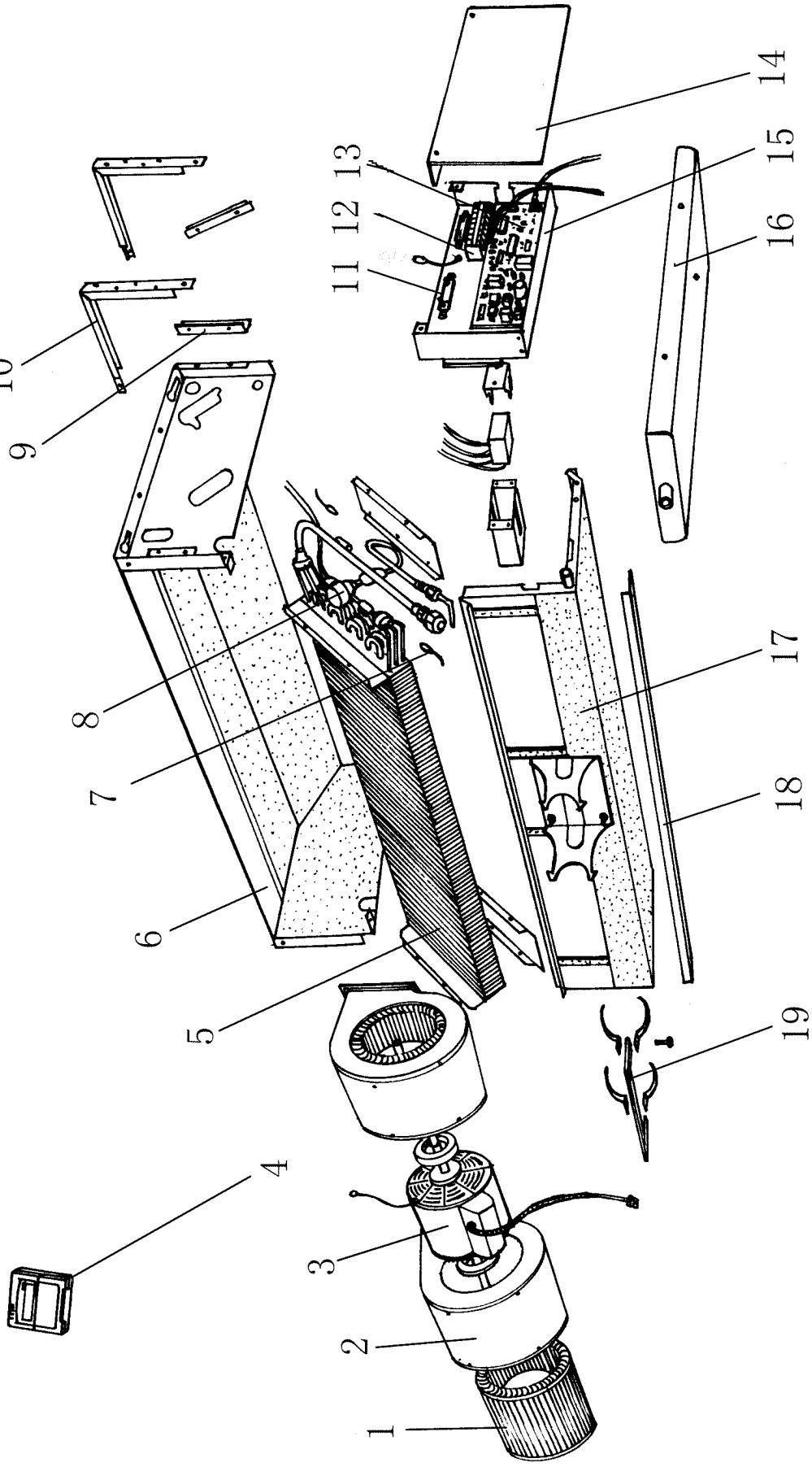
Model: AD142FCBHA / AD182FCBHA



AD142FCBHA / AD182FCBHA

NO.	Specialized number	Name of part	QTY.
1	0010100223	Guard plate 1	1
2	0010100228	Guard plate 2	1
3	0010750914	Evaporator assembly	1
4	0010800106	Right fixing plate assembly	1
5	0010100016	Supporting plate assembly	1
6	001A1301988	Seal ring for scroll case	1
7	001A2331089	Centrifugal fan	1
8	001A17621153	Cushion	1
9	0010200120	Cushion	1
10	001A17341291	Cushion	1
11	001A14311066	Air outlet	1
12	001A17341292	Cushion	1
13	0010800155	Base plate assembly	1
14	0010200121	Cushion	1
15	0010200122	Chshion	1
16	0010100224	Long fixing tendon	1
17	0010100226	Enclosure	1
18	0010100227	Inlet wind connect frame	1
19	001A3800005	Transformer	1
20	0010150142	Transformer case assembly	1
21	001A1452909	Rubber ring	1
22	001A1452861	Rubber ring	1
23	0010450357	Indoor PCB	1
24	001A4000108	Terminal board	1
25	001A3600134	Fan capacitor	1
26	001A100859	Electrical box cover assembly	1
27	001A5002256	Fixing bolt	1
28	001A1309785	Water pump fixing stand	1
29	001A17511246	Damping pad	1
30	001A3000250	Dual shaft electric motor	1
31	001A3000197	Water pump motor	1
32	001A1301786	Floater fixing stand	1
33	001A0900093	Water drain pipe assembly	1
34	001A1301783	Connecting plate 2	1
35	001A1301784	Water pump support	1
36	001A1301782	Connecting plate 1	1
37	001A3400076	float switch	1
38	001A1301789	Fixed handle 1	1
39	001A1301790	Fixed handle 2	1
40	001A1101205	Scroll case	1
41	001A0100743	Left fixing plate assembly	1
42	001A0900094	W ater collecting pan assembly	1
43	001A17621350	Cushion	1

Model: AE092FCAHA / AE092FCBHA / AE182FCAHA / AE182FCBHA



AE092FCAHA / AE182FCAHA

No.	Specialized Number	Name	Quantity
1	----------	Centrifugal fan	2
2	----------	Snail shell	2
3	----------	Fan motor	1
4	001A3400197	Wired remote controller	1
5	----------	Heat exchanger	1
6	0010400158	Liquid pipe temp. sensor	1
7	----------	Upper shell	1
8	0010400159	Winding of PMV	1
9	----------	Fixing plate	2
10	----------	Braket of electrical box	2
11	001A13011199	Cover of electrical box	1
12	001A4000177	Terminal block (6 bites)	1
13	0010450059	PCB	1
14	001A5745116	Wire clamp	2
15	0010100417	Electrical box	1
16	----------	Drain pan	1
17	----------	Nether shell	1
18	----------	Nether fixing plate	1
19	0010500725	Motor braket	1

AE182FCAHA

13	0010400297	PCB	1

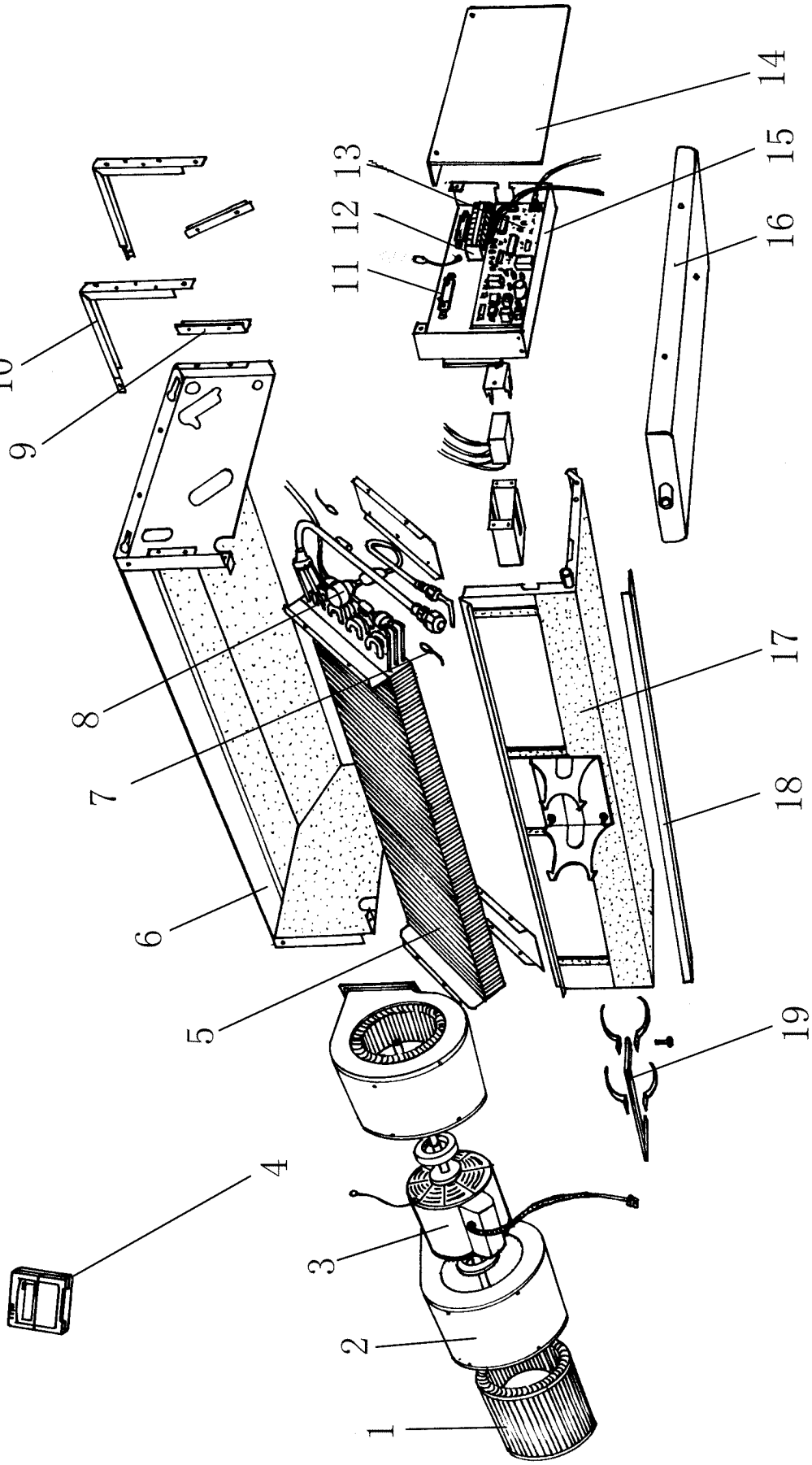
AE092FCBHA / AE182FCBHA

No.	Specialized Number	Name	Quantity
1	----------	Centrifugal fan	2
2	----------	Snail shell	2
3	----------	Fan motor	1
4	001A3400196	Wired remote controller	1
5	----------	Heat exchanger	1
6	0010400158	Liquid pipe temp. sensor	1
7	----------	Upper shell	1
8	0010400159	Winding of PMV	1
9	----------	Fixing plate	2
10	----------	Braket of electrical box	2
11	001A13011199	Cover of electrical box	1
12	001A4000177	Terminal block (6 bites)	1
13	0010450059	PCB	1
14	001A5745116	Wire clamp	2
15	0010100417	Electrical box	1
16	----------	Drain pan	1
17	----------	Nether shell	1
18	----------	Nether fixing plate	1
19	0010500725	Motor braket	1

AE182FCBHA

13	0010450401	PCB	1

Model: AE092FCAKA / AE182FCAKA



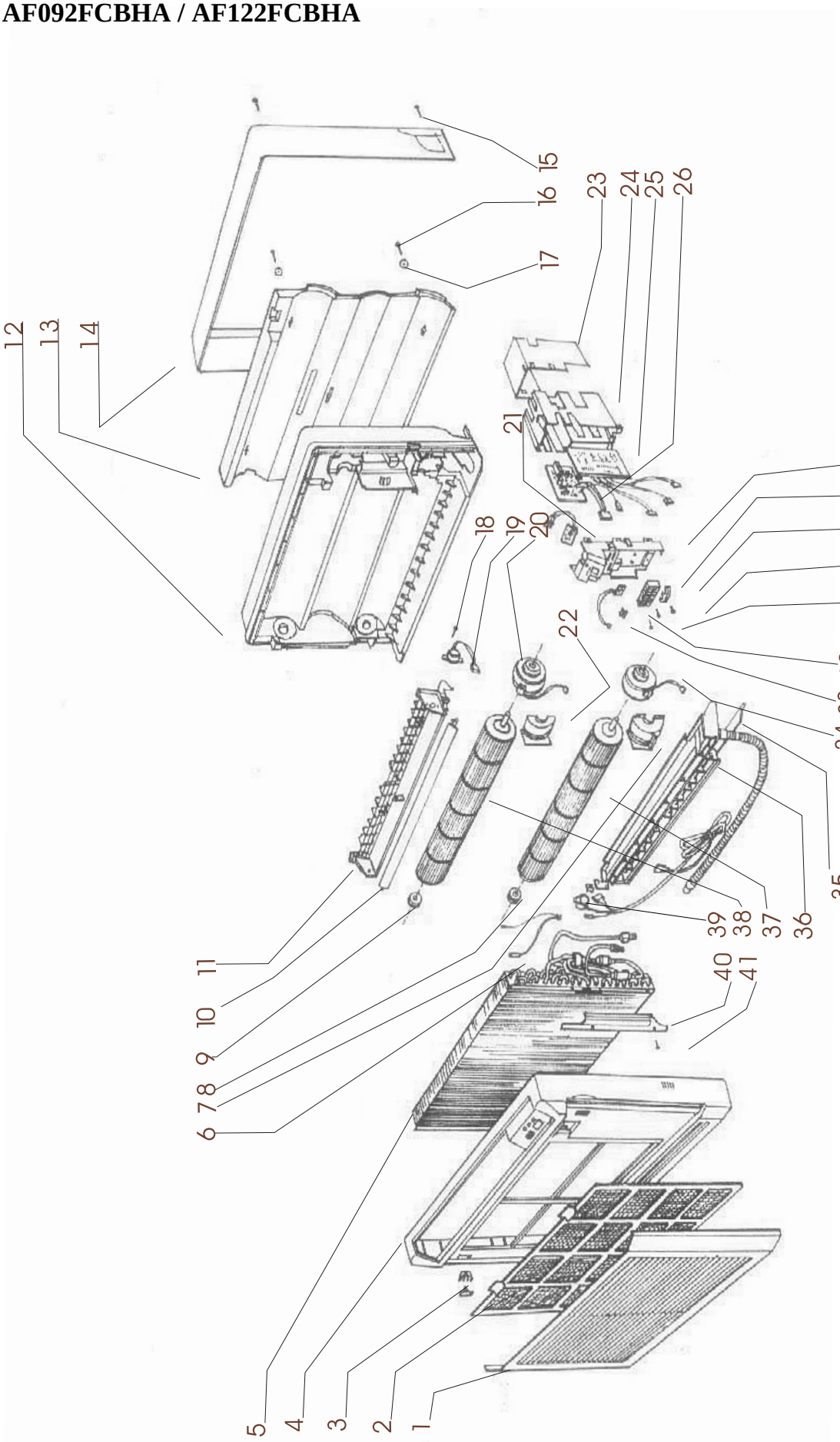
AE092FCAKA / AE182FCAKA

No.	Specialized Number	Name	Quantity
1	----------	Centrifugal fan	2
2	----------	Snail shell	2
3	----------	Fan motor	1
4	001A3400197	Wired remote controller	1
5	----------	Heat exchanger	1
6	0010400158	Liquid pipe temp. sensor	1
7	----------	Upper shell	1
8	0010400159	Winding of PMV	1
9	----------	Fixing plate	2
10	----------	Braket of electrical box	2
11	001A13011199	Cover of electrical box	1
12	001A4000177	Terminal block (6 bites)	1
13	0010450059	PCB	1
14	001A5745116	Wire clamp	2
15	0010100417	Electrical box	1
16	----------	Drain pan	1
17	----------	Nether shell	1
18	----------	Nether fixing plate	1
19	0010500725	Motor braket	1

AE182FCAKA

13	0010400297	PCB	1

MODEL : AF092FCBHA / AF122FCBHA

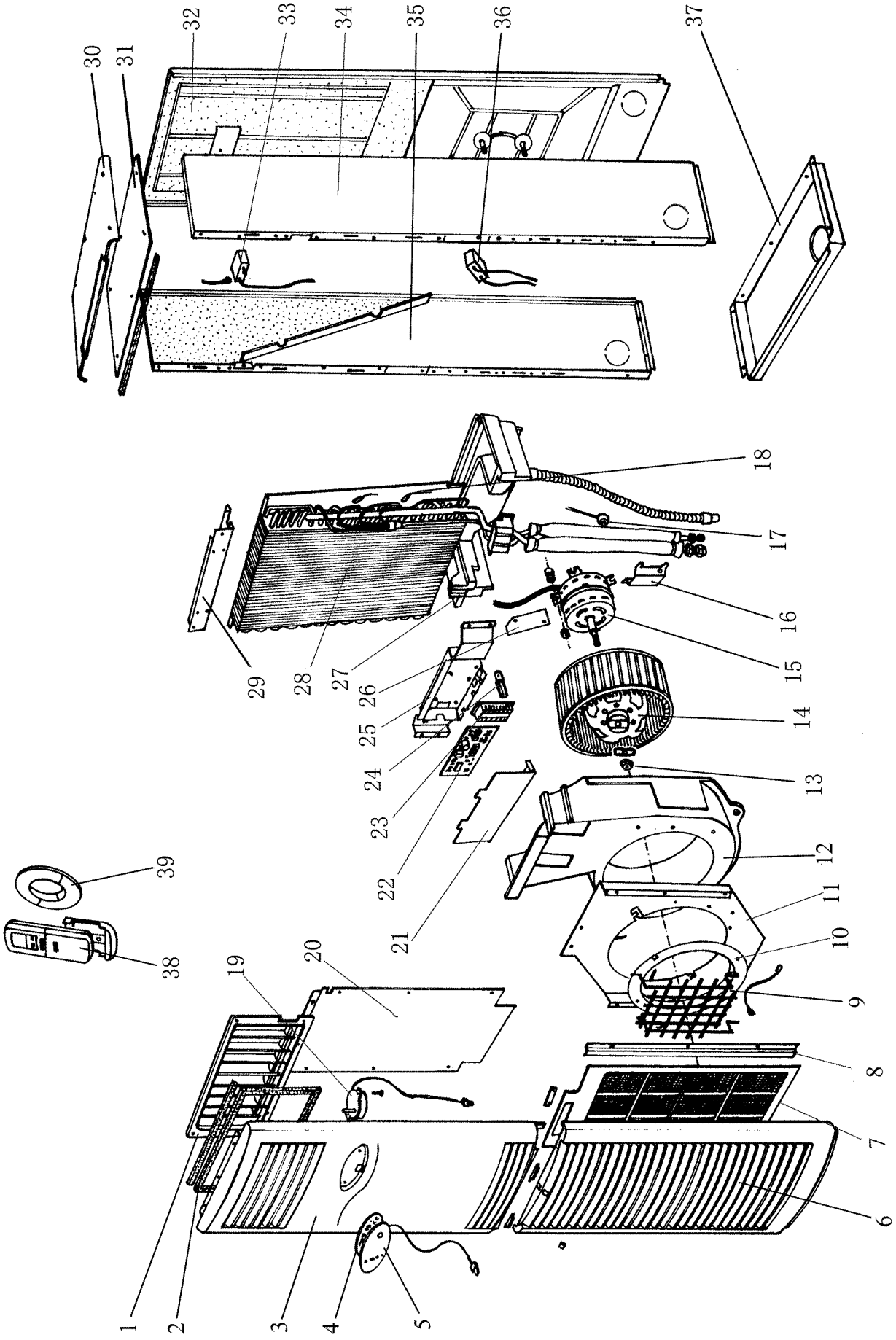


AF092FCBHA / AF122FCBHA

NO.	Specialized number	Name of part	QTY
1	0010800954	front grill	1
2	0010201169	air filter	1
3	0010201288	button	1
4	0010800923	front panel	1
5	0010751105	heat exchanger	1
6	*0010850276	temperature sensor	1
7	0010800928	motor cover	1
8	0010201176	bearing	1
9	0010201176	bearing	1
10	0010201191	flap	1
11	0010800930	air outlet assy	1
12	0010800924	bottom plate	1
13	0010800932	plate cushion	1
14	0010100571	back panel	1
15	001A5002008	screw	4
16	001A5002116	screw	5
17	001A5401031	screw washer	5
18	001A5002118	screw	2
19	0010400935	swing motor	1
20	0010400933	motor	1
21	*0010850276	display board	1
22	0010800928	motor cover	1
23	*0010850276	control box shell	1
24	*0010850276	control box	1
25	*0010850276	main board	1
26	*0010850276	power board	1
27	*0010850276	service cover	1
28	*0010850276	terminal block	1
29	*0010850276	wiring clamp	1
30	001A5002099	screw	3
31	001A5002236	screw	3
32	0010201275	hand switch	1
33	0010400928	select board	1
34	0010400934	motor	1
35	0010201209	flap	1
36	0010201208	drain pan assy.	1
37	0010201184	below fan	1
38	0010201175	up fan	1
39	0010400936	swing motor	1
40	0010201281	cover panel	1
41	001A5002236	screw	2

note: Part ***0010850276*** is of a assembly.

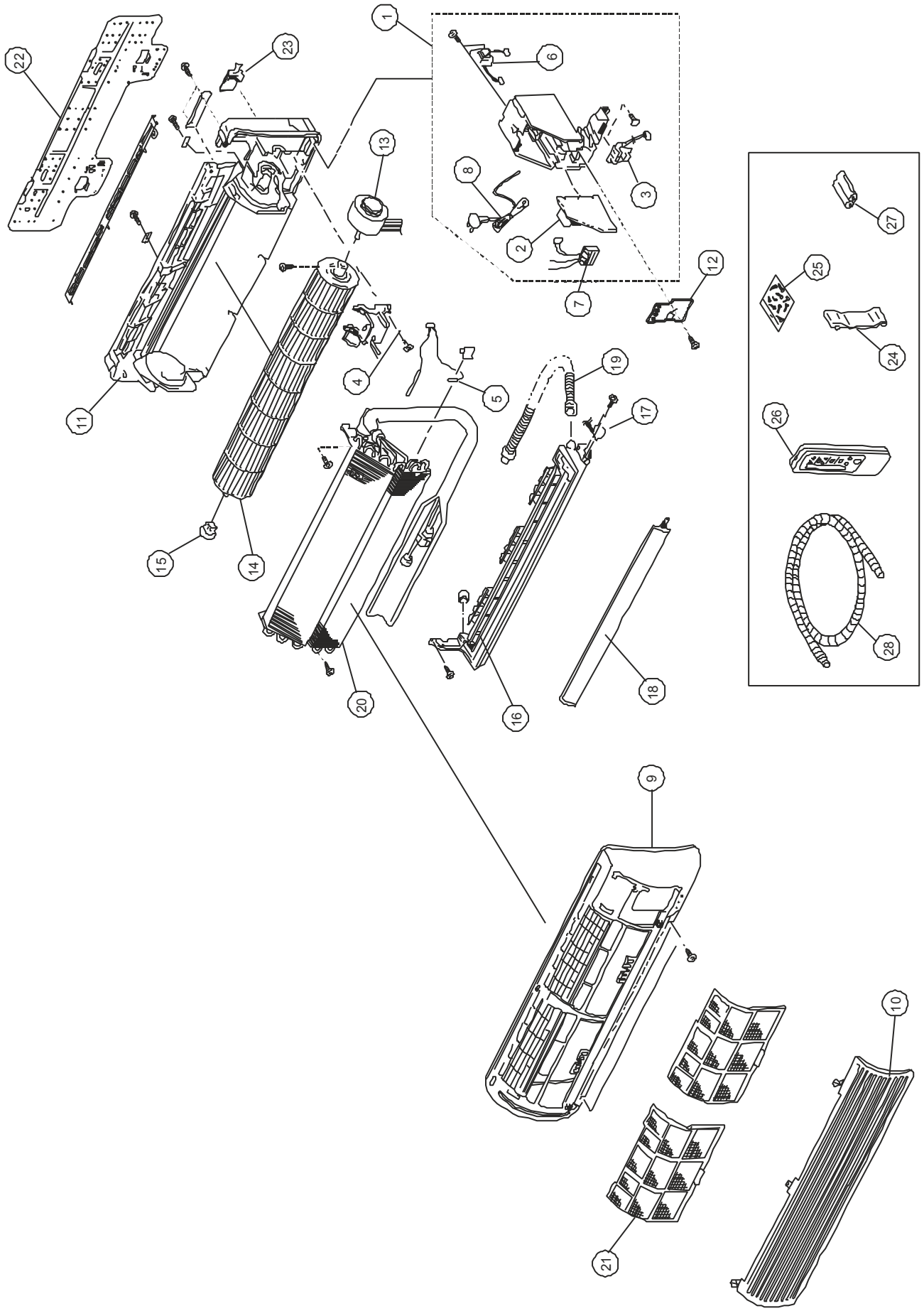
MODEL : AP182FAAHA / AP182FABHA



AP182FAAHA

No.	Specialized Number	Name	Quantity
1	001A0100247	Vertical blade	1
2	001A1442109A	Prevent burning pad	1
3	001A0100244	Front grill	1
4	001A1237161A	Control board	1
5	001A0600301	Display board	1
6	001A1231111	Inlet grill	1
7	001A2431071	Air-filter	1
8	001A1301061	Right fortified board	1
9	001A1303073A	Guard grill	1
10	001A1301072	Wind ring	1
11	001A1301071A	Cover	1
12	001A1233022	Snail shell	1
13	001A5102008	Nut (M4)	1
14	001A0300016A	Fan	1
15	001A3000039	Motor	1
16	001A1301074A	Press board	1
17	001A3800164	PMV	1
18	001A4400748	Sensor wiring	1
19	001A3000016A	In-phase motor	1
20	001A1101036B	Block board	1
21	001A1301078	Cover of electrical box	1
22	001A0600687	Control base board	1
23	001A4000177	Terminal block(6 bites)	1
24	001A5701062	Suppress wiring nip	1
25	001A0100132B	Electrical box	1
26	001A1301070	Suppress wiring board	1
27	001A0900023	Drainage pan assy	1
28	001A0400206	Heat exchanger assy	1
29	001A1301067	Partition plate	1
30	001A0100248	Top cover assy	1
31	001A1742612A	Top cover pad	1
32	001A0100388	Back guard assy	1
33	001A3600018	Fan motor capacitor	1
34	001A0100250	Right side plate assy	1
35	001A0100249	Left side plate assy	1
36	001A3100085	Negative ion producer	1
37	001A0100081	Bottom plate assy	1
38	001A3400130	Wireless remote controller	1
39	001A1752228A	Guard circle	1

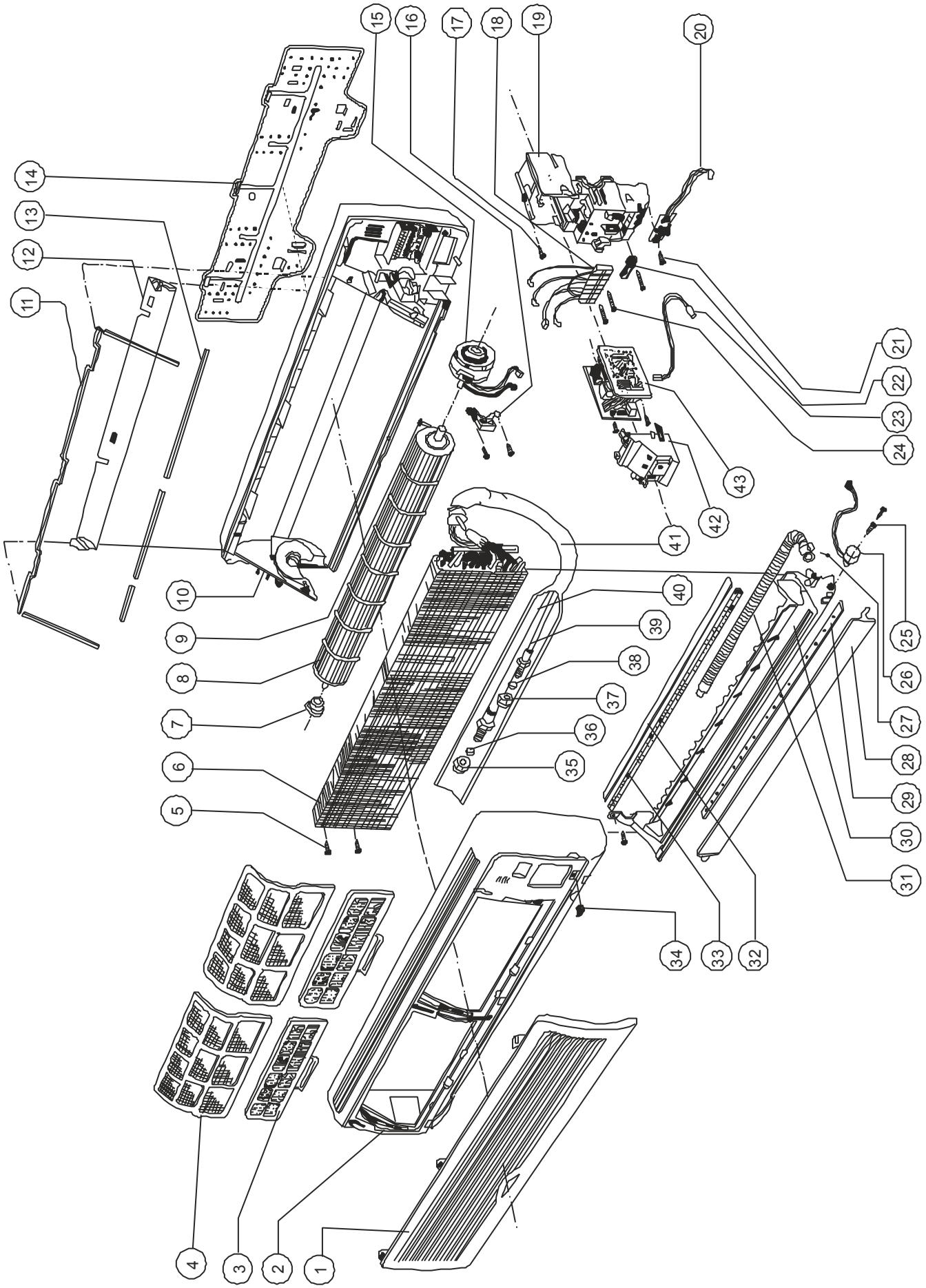
Model: AS092FMAHA AS092FMBHA



AS092FMAHA / AS092FMBHA

No.	Specialized Number	Name	Quantity
1	001A3400130	Controller assy.	1
2	001A3300081	PCB(main controller)	1
3	001A3900051	PCB(receiver)	1
4	001A1431372	Motor cover	1
5	001A3900059	Coil Sensor	1
6	001A3800002	Transformer	1
7	001A4000159	Terminal block	1
8	001A4400469	Electricity power cord	1
9	001A0100944	Front panel assy	1
10	001A1232075	Front grille	1
11	001A0100206	Rear case assy.	1
12	001A1431371	Service cover	1
13	001A3000052	Motor	1
14	001A2335028	Fan	1
15	001A0300005	Bearing	1
16	001A0900107	Drain pan	1
17	001A3000040	Swing motor	1
18	001A1232077	Flap	1
19	001A0900011	Drain hose	1
20	001A0400140	Evaporator	1
21	001A2400060 (left) 001A2400061 (right)	Air filter	1
22	001A1431365	Mounting plate	1
23	001A1431368	Piping support	1

Model: AS122FBBHA AS182FTAHA AS182FTBHA



Parts list

No.	Spare parts number	Spare parts description in English	Qty.	Model	Price list	Failure rate	proportion of the spare-part stock	Remark
1	0010801166	Front grill	1	AS122FBBHA	2.21	0.000%	0.000%	x
2	001A0100943	Front panel	1	AS122FBBHA	3.90	0.000%	0.000%	x
3	001A1762062	Air purifying filter	2	AS122FBBHA	0.01	0.000%	0.000%	x
4	001A1762140	Air filter	2	AS122FBBHA	0.11	0.000%	0.000%	x
5	001A5313003	Screw	4	AS122FBBHA	0.11	0.000%	0.000%	x
6	001A0400129	Heat exchanger	1	AS122FBBHA	13.17	0.000%	0.000%	x
7	001A1443031	Bearing	1	AS122FBBHA	0.02	0.000%	0.000%	x
8	001A0300038A	Fan	1	AS122FBBHA	4.68	0.020%	0.024%	*
9	001A5002088	Screw	1	AS122FBBHA	0.00	0.000%	0.000%	x
10	001A1233136	Bottom plate	1	AS122FBBHA	8.07	0.000%	0.000%	x
11	001A1742069	Cushion	1	AS122FBBHA	0.02	0.000%	0.000%	x
12	001A1742069	Cushion	1	AS122FBBHA	0.02	0.000%	0.000%	x
13	001A1742068	Cushion	1	AS122FBBHA	0.01	0.000%	0.000%	x
14	001A1301216	Mounting plate	1	AS122FBBHA	2.09	0.000%	0.000%	x
15	001A3000280	Motor	1	AS122FBBHA	8.16	0.020%	0.024%	*
16	001A1431717	Motor cover	1	AS122FBBHA	0.23	0.000%	0.000%	x
17	001A5002116	Screw	1	AS122FBBHA	0.00	0.000%	0.000%	x
18	001A4000090	Junction box	1	AS122FBBHA	0.62	0.000%	0.000%	x
19	001A1431693	Control box	1	AS122FBBHA	1.13	0.000%	0.000%	x
20	001A2500018	Power wire	1	AS122FBBHA	2.35	0.000%	0.000%	x
21	001A5002116	Screw	1	AS122FBBHA	0.00	0.000%	0.000%	x
22	001A6645001	Wring clamp	1	AS122FBBHA	0.02	0.000%	0.000%	x
23	001A3900059	Temperature sensor	1	AS122FBBHA	0.98	0.010%	0.012%	
24	001A5002118	Screw	2	AS122FBBHA	0.00	0.000%	0.000%	x
25	001A5002116	Screw	1	AS122FBBHA	0.00	0.000%	0.000%	x
26	001A3000008	Swing motor	1	AS122FBBHA	0.00	0.020%	0.024%	*
27	001A5002116	Screw	1	AS122FBBHA	0.00	0.000%	0.000%	x
28	001A1431028	Flap	1	AS122FBBHA	0.89	0.000%	0.000%	x
29	001A2239006A	Cushion	1	AS122FBBHA	0.28	0.000%	0.000%	x
30	001A0900104	Drain pan	1	AS122FBBHA	1.31	0.000%	0.000%	x
31	001A0900011	Drain hose	1	AS122FBBHA	0.72	0.000%	0.000%	x
32	001A1734086	Cushion	1	AS122FBBHA	0.04	0.000%	0.000%	x
33	001A1733079	Cushion	1	AS122FBBHA	0.10	0.000%	0.000%	x
34	001A1444021	Button	1	AS122FBBHA	0.15	0.000%	0.000%	x
35	001A5313003	Nut	1	AS122FBBHA	0.11	0.000%	0.000%	x
36	001A2912007	Dustproof cover	1	AS122FBBHA	0.01	0.000%	0.000%	x
37	001A5313008	Nut	1	AS122FBBHA	0.24	0.000%	0.000%	x
38	001A2912008	Dustproof cover	1	AS122FBBHA	0.02	0.000%	0.000%	x
39	001B0500412	Suction pipe assy	1	AS122FBBHA	0.67	0.000%	0.000%	x
40	001B0500413	Discharge pipe tube	1	AS122FBBHA	1.54	0.000%	0.000%	x
41	001A1741744	Heat insulation tube	1	AS122FBBHA	0.29	0.000%	0.000%	x
42	/	/		AS122FBBHA		0.000%	0.000%	x
43	0010400581	PC board	1	AS122FBBHA	19.69	0.020%	0.024%	*

1,The failer rate and the proportion of the spare-part stock are regarded as the reference of the stock for spare-parts;The first time should be stocked accroded with the proportion of the spare-parts,and it should be adjusted with the actual quantity 3 months later.

2,easy-damaged;The spare-part which is often damaged and the customer must stock in the spare-parts warehouse,and should be marked with"*"

3,possible damaged:The spare-part which is not often damaged like the easy damaged one and the customer may stock in the spare-part warehouse accord with the actual case,should be marked with " ".

4,not need provided :The spare-part which is seldom damaged or the maintenance man could not maitmains.The spare parts may be air freighted by the factory if they were damaged.The customer nees not stock in the spare-part warehouse,should be marked with " x ".

5,Above should be improved accord with the reply of the market half a year per time.

6.The spare parts price on net is FOB Qingdao term.

AS182FTAHA / AS182FTBHA

No.	Specialized Number	Name	Quantity
1	001A1231127	Front grille	1
2	001A1232119	Front panel	1
3	001A0900078	Air purifying filter	2
4	001A2400076	Air filter	2
5	001A5002013	Screw	2
6	001A0400065	Heat exchanger	1
7	001A2343037	Bearing	1
8	001A2300034	Fan	1
9	001A5002021	Screw	1
10	001A1232116	Bottom plate	1
11	001A1734630	Cushion	1
12	001A1733639	Cushion	1
13	001A1734627	Cushion	1
14	001A1101075	Mounting plate	1
15	001A3000050	Motor	1
16	001A1431453	Motor cover	1
17	001A5002114	Screw	2
18	0010400578	Terminal block	1
19	001A1231123	Control box	1
20	/	Power wire	1
21	001A5002116	Screw	1
22	001A1231124	Wiring clamp	1
23	001A3900004	Coil temperature sensor	1
24	001A5002070	Screw	2
25	001A5002026	Screw	2
26	001A3000071	Swing motor	1
27	001A5002030	Screw	1
28	001A1231126	Flap	1
29	001A1734635	Cushion	1
30	001A1231115	Drain pan	1
31	001A0900049	Drain hose	1
32	001A1733647	Cushion	1
33	001A1733632	Cushion	1
34	001A1443459	button	3
35	001A5313005	Nut	1
36	001A2912001	Dust proof cover	1
37	001A5313004	Nut	1
38	001A2912002	Dust proof cover	1
39	001A0500225	Suction pipe assy.	1
40	001A0500226	Discharge pipe assy.	1
41	001A1734631A	Heat insulation tube	1
42	001A1231125	Service cover	1
43	0010400577	PC board	1

Sincere Forever